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**Bruno**

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(54) **METHODS AND COMPOSITIONS OF DNA LIGANDS FOR ARTHROPOD-BORNE PATHOGEN DETECTION AND PROPHYLAXIS OR THERAPY**

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**Related U.S. Application Data**

(63) Continuation of application No. 13/199,082, filed on Aug. 18, 2011, now Pat. No. 8,648,181.

(60) Provisional application No. 61/401,731, filed on Aug. 18, 2010.

(51) **Int. Cl.**

**C07H 21/04** (2006.01)  
**C12N 15/115** (2010.01)

(52) **U.S. Cl.**  
CPC ..... **C12N 15/115** (2013.01); **C07H 21/04** (2013.01); **C12N 2310/16** (2013.01)

USPC ..... **536/23.1**

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2012/0123096 A1\* 5/2012 Bruno et al. .... 530/363

\* cited by examiner

*Primary Examiner* — Tracy Vivlemore

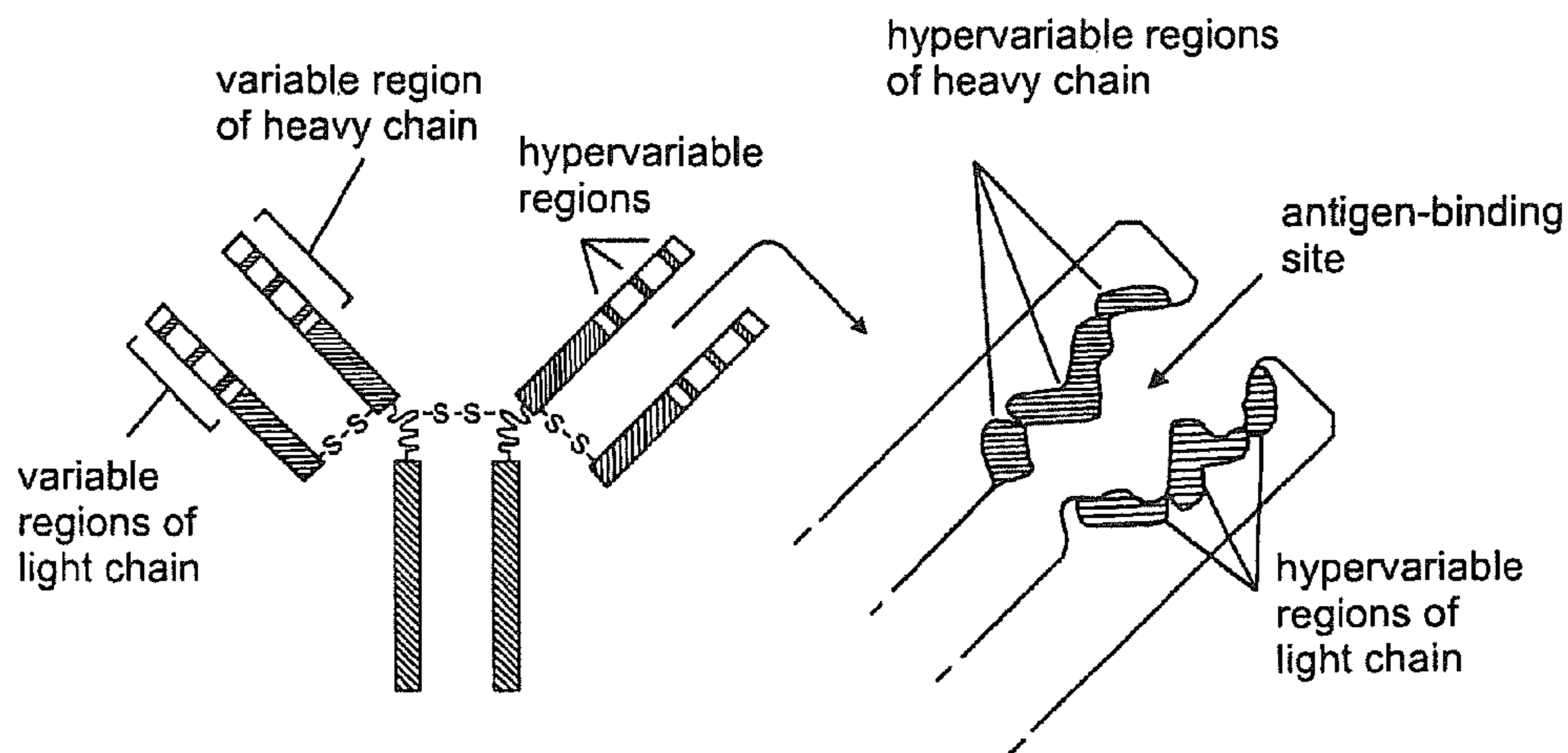
(74) *Attorney, Agent, or Firm* — William H. Quirk; Daniel A. Rogers; Rosenthal Sandoloski Pauerstein Agather LLP

(57) **ABSTRACT**

Specific DNA ligand sequences for binding various arthropod-borne pathogens including arboviruses, *rickettsia* and parasites are described. Each of these sequences or their linear, two- and three-dimensional linked sequences can function in varying assay and sensor formats with varying degrees of success. Linkage of the whole or partial DNA sequences (putative binding sites) can be used to enhance specificity and affinity towards complex targets, thereby improving assay selectivity and sensitivity in many instances. In addition, the DNA sequences may bind and neutralize or prevent infection from arthropod-borne viruses, *rickettsia* and *Leishmania* or other parasites.

**3 Claims, 14 Drawing Sheets**

A. Antibody Hypervariable Regions Linked Together



B. Multi-Aptamer or Linked Aptamer Binding Pockets

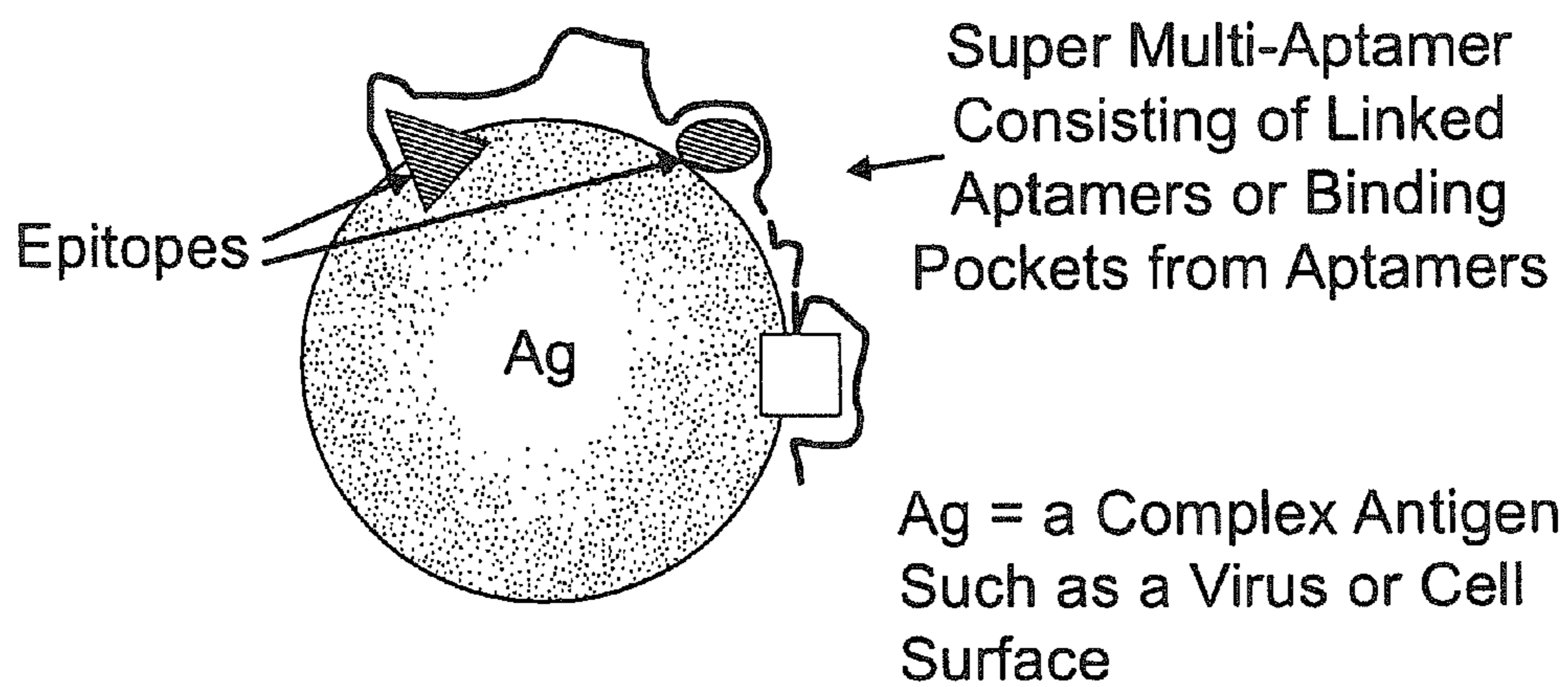


Fig. 1

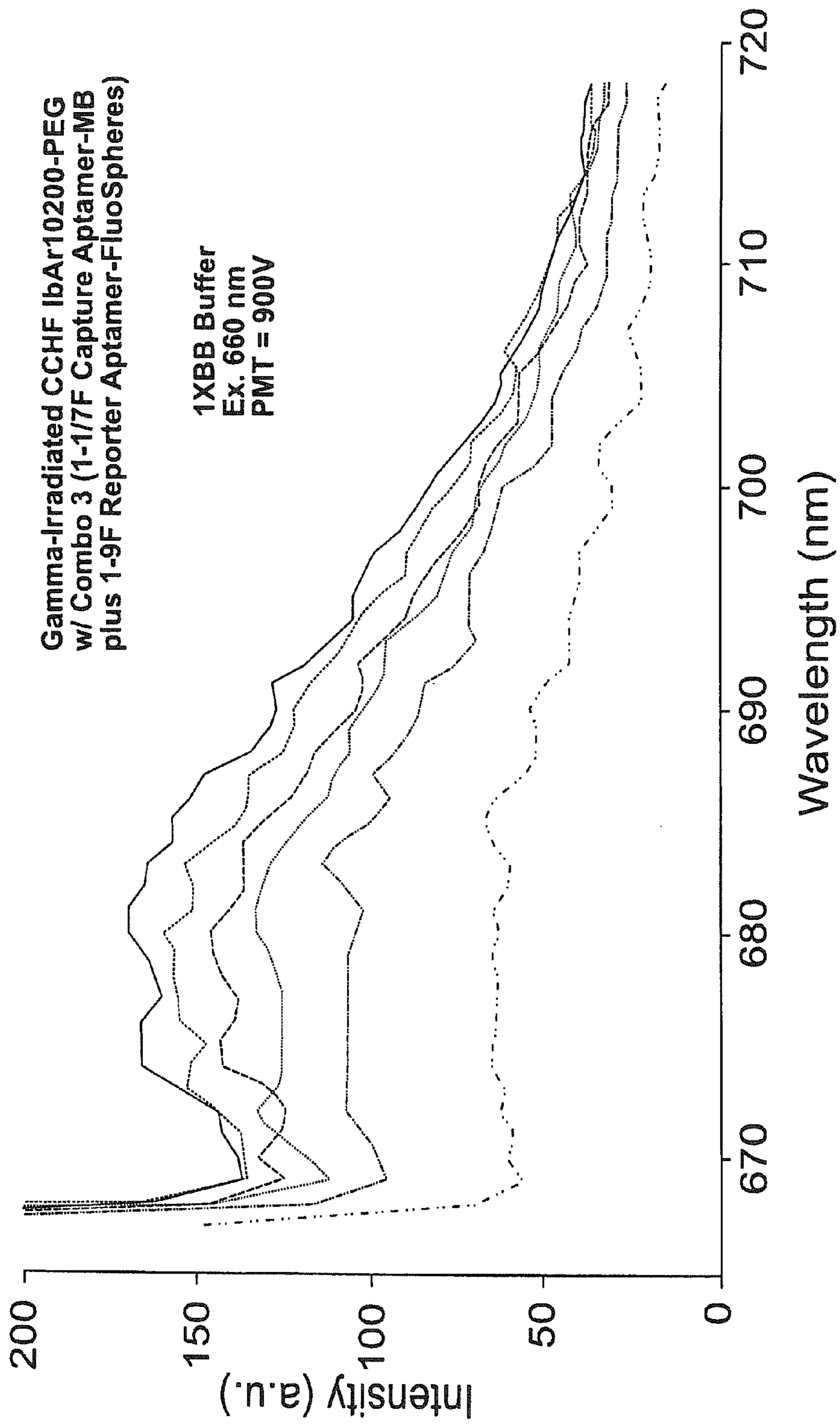
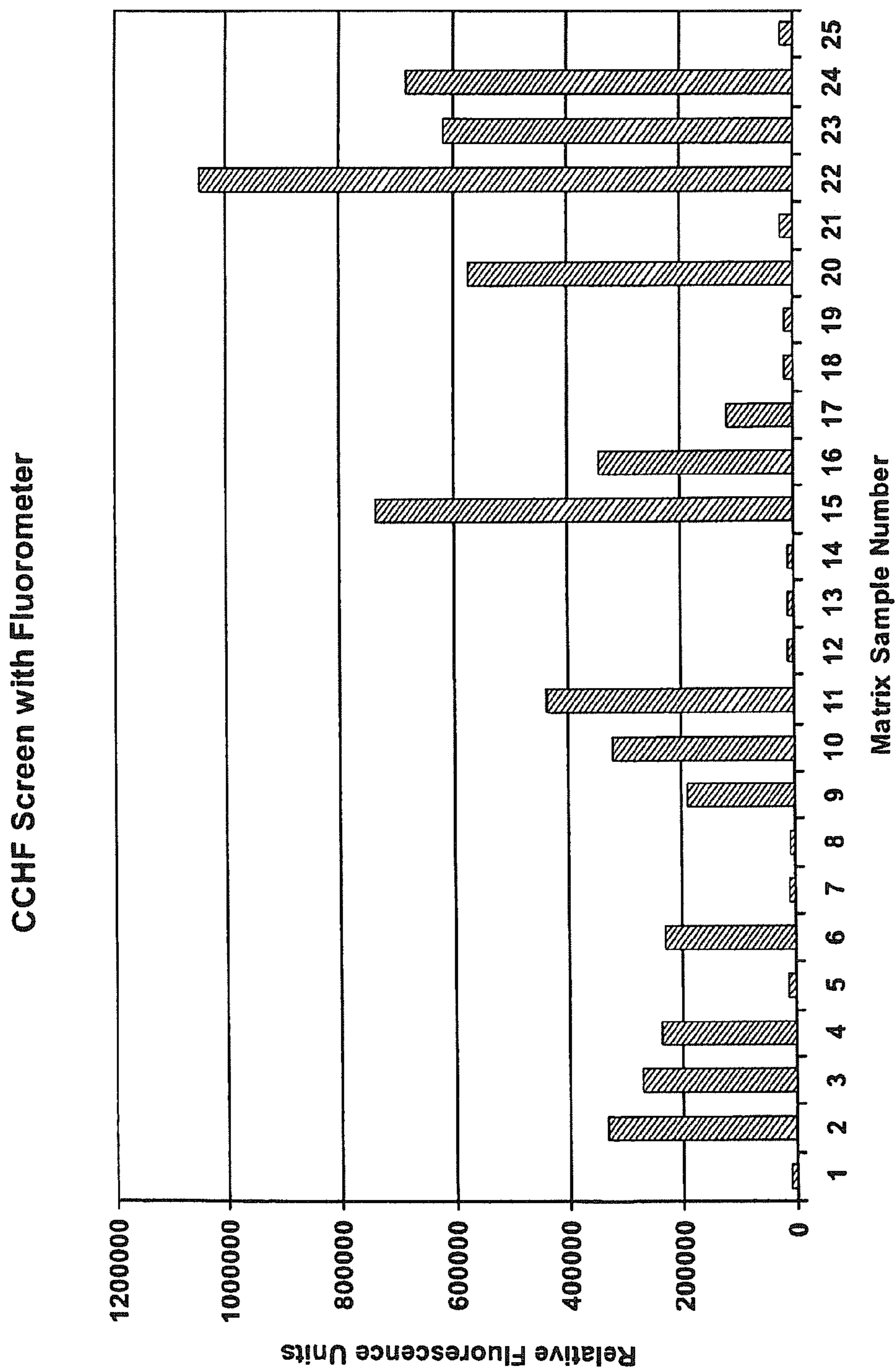


Fig. 2



**Fig. 3**

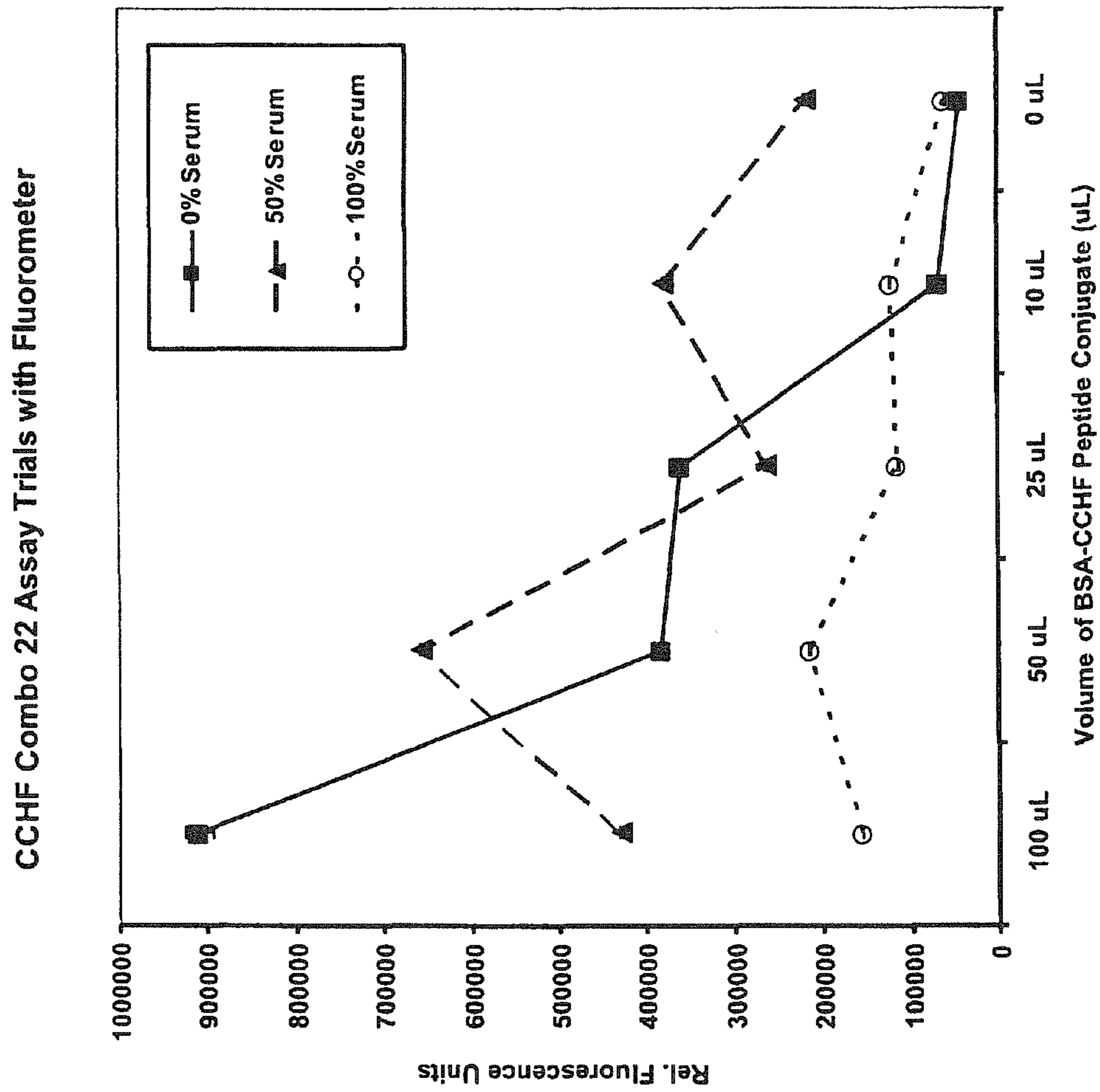


Fig. 4

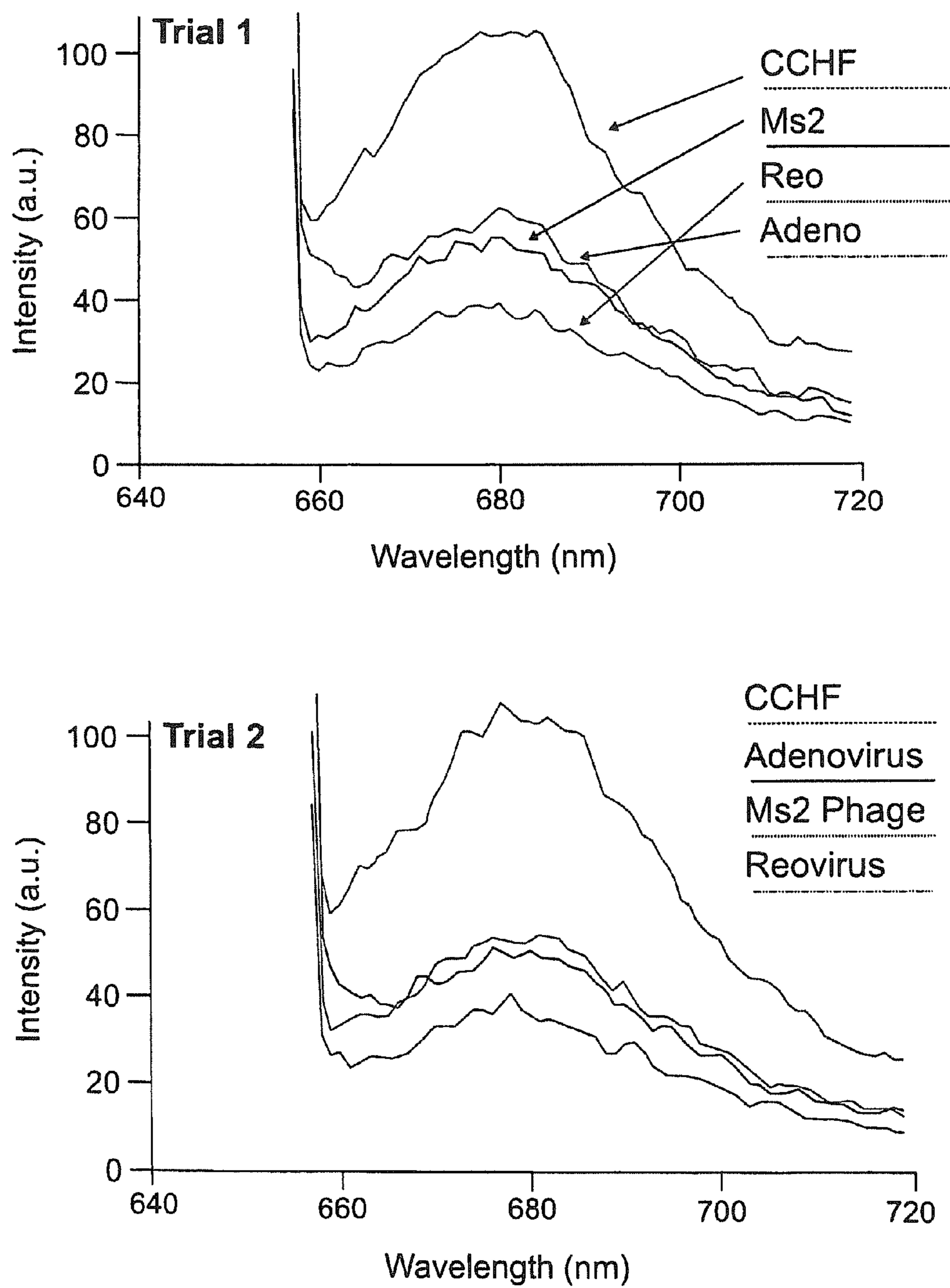
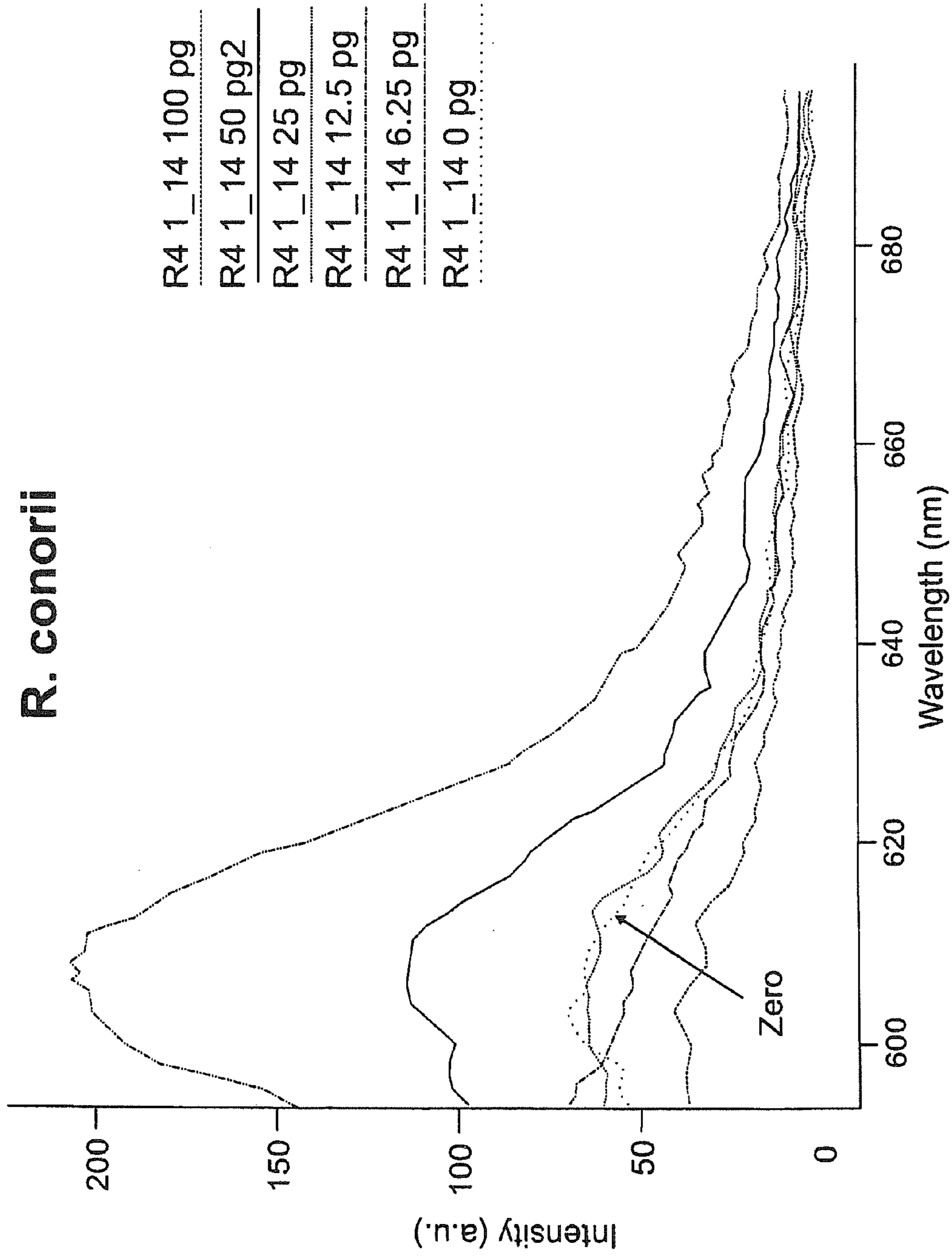
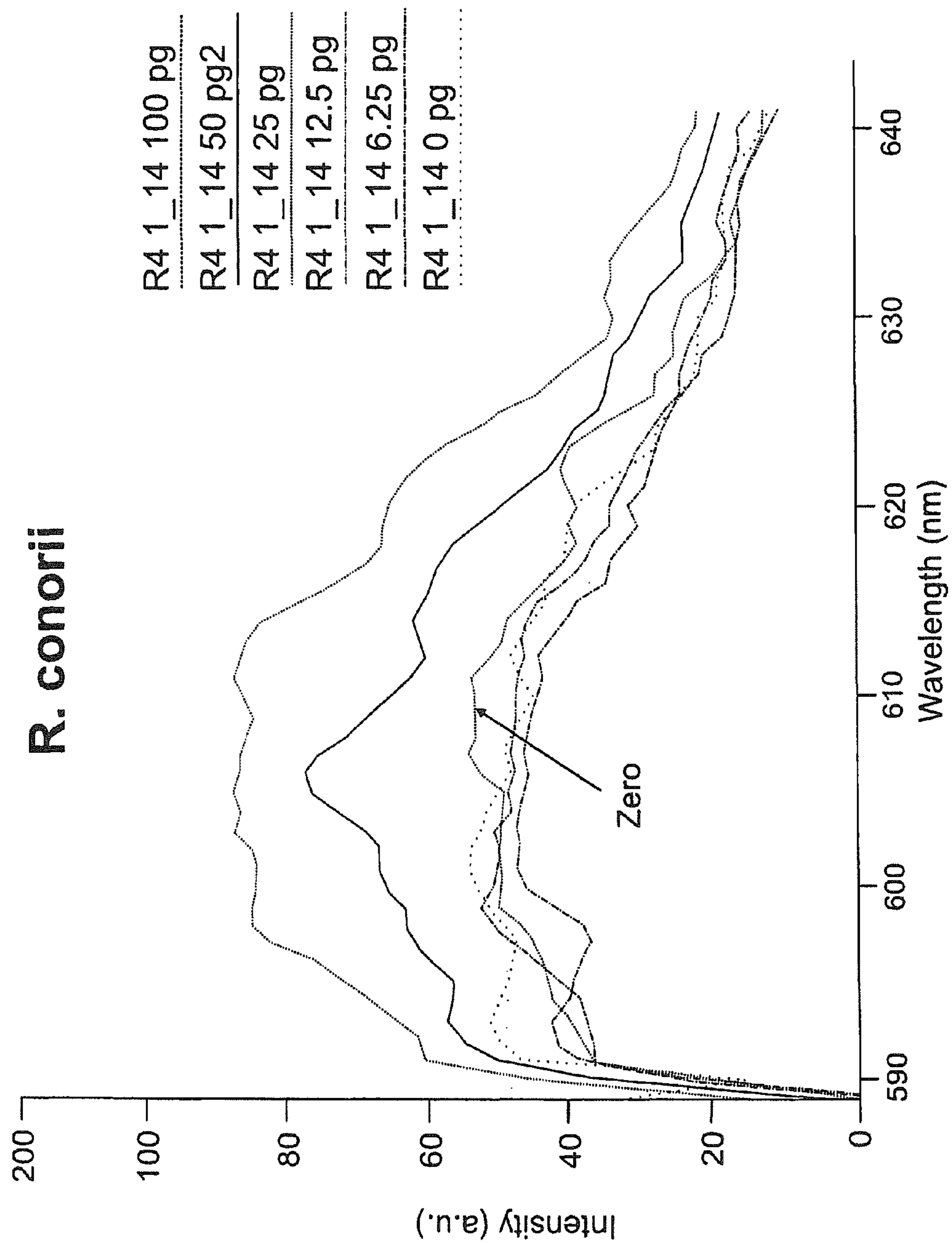


Fig. 5

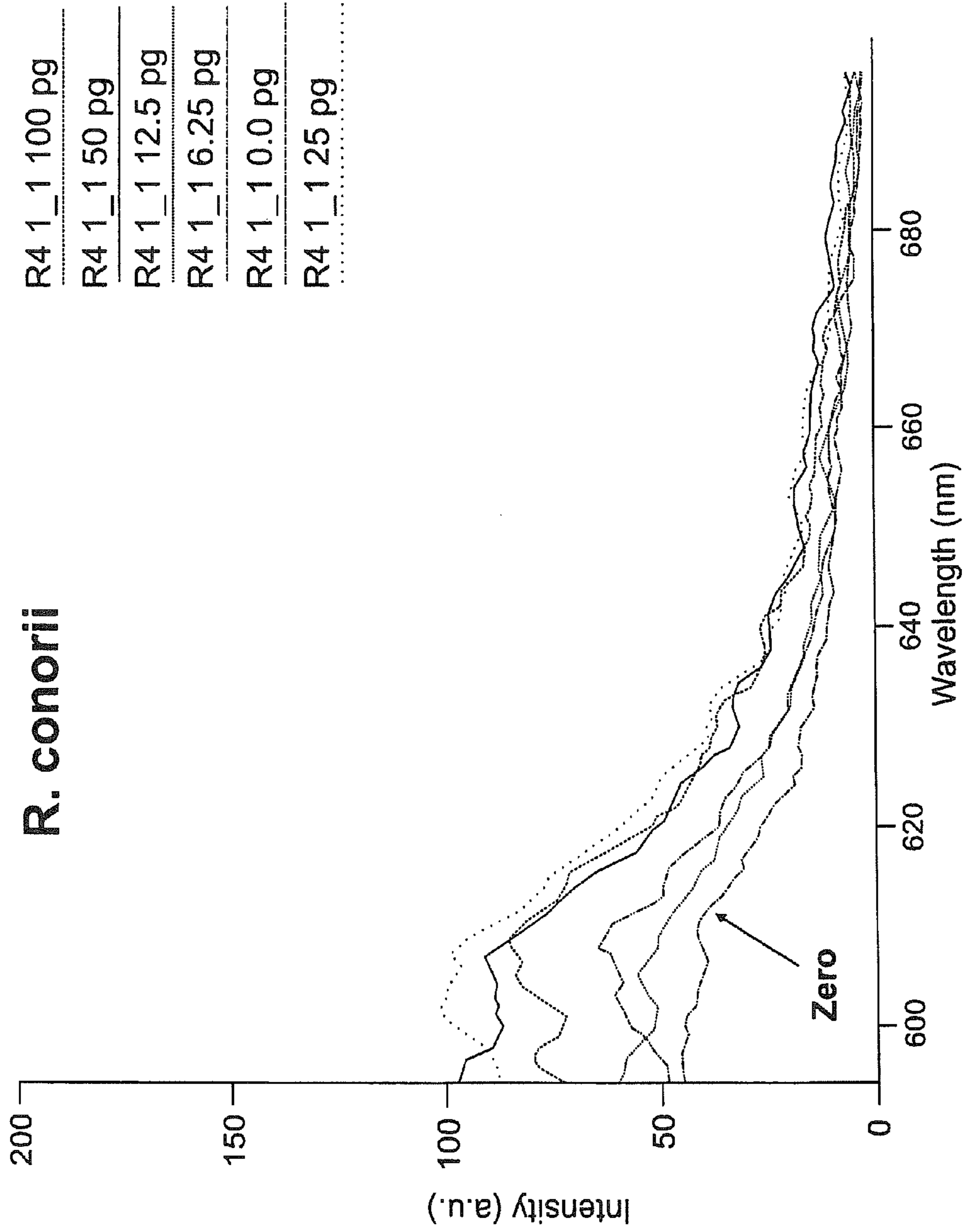


**Fig. 6A**

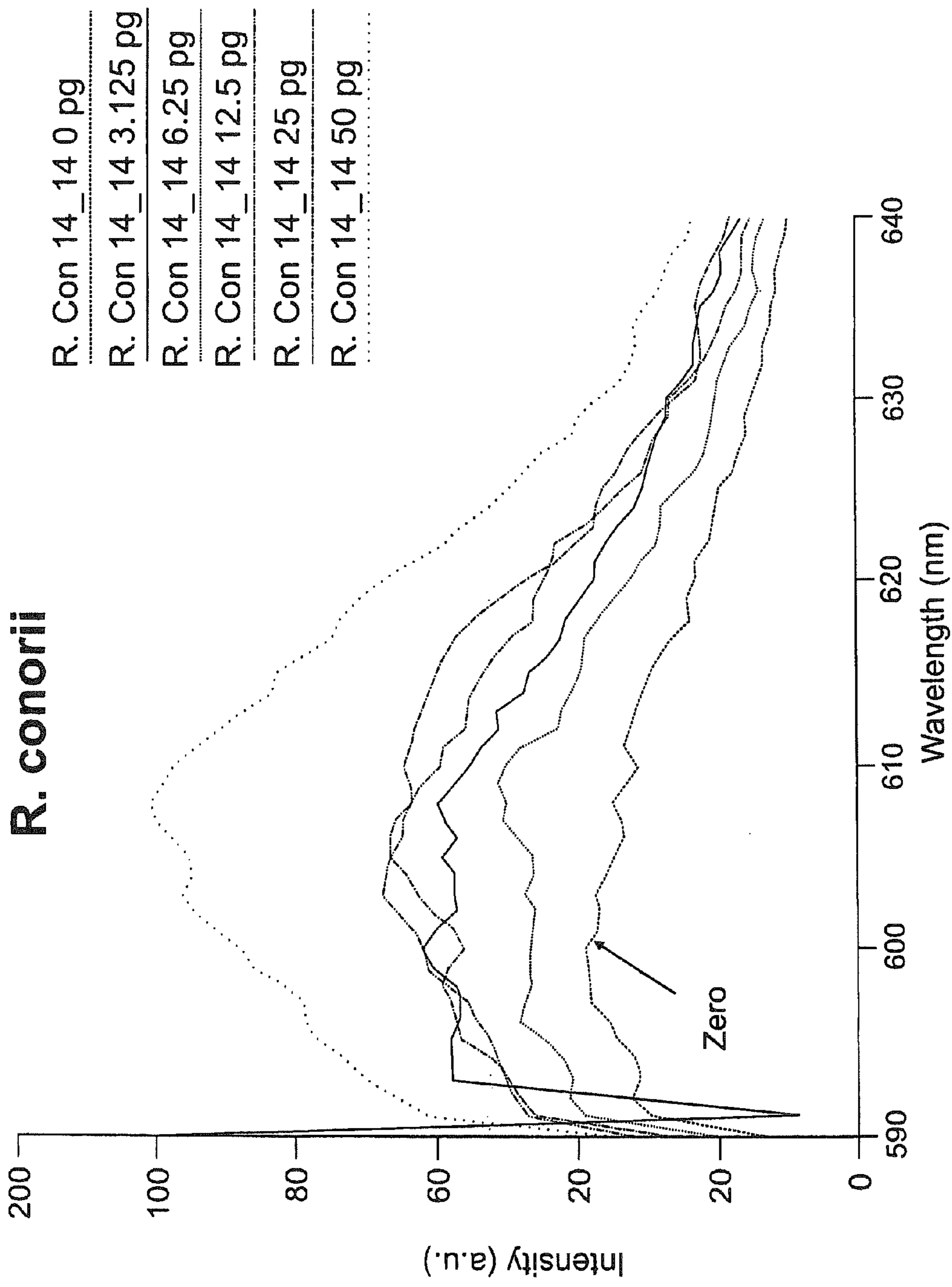


**Fig. 6B**

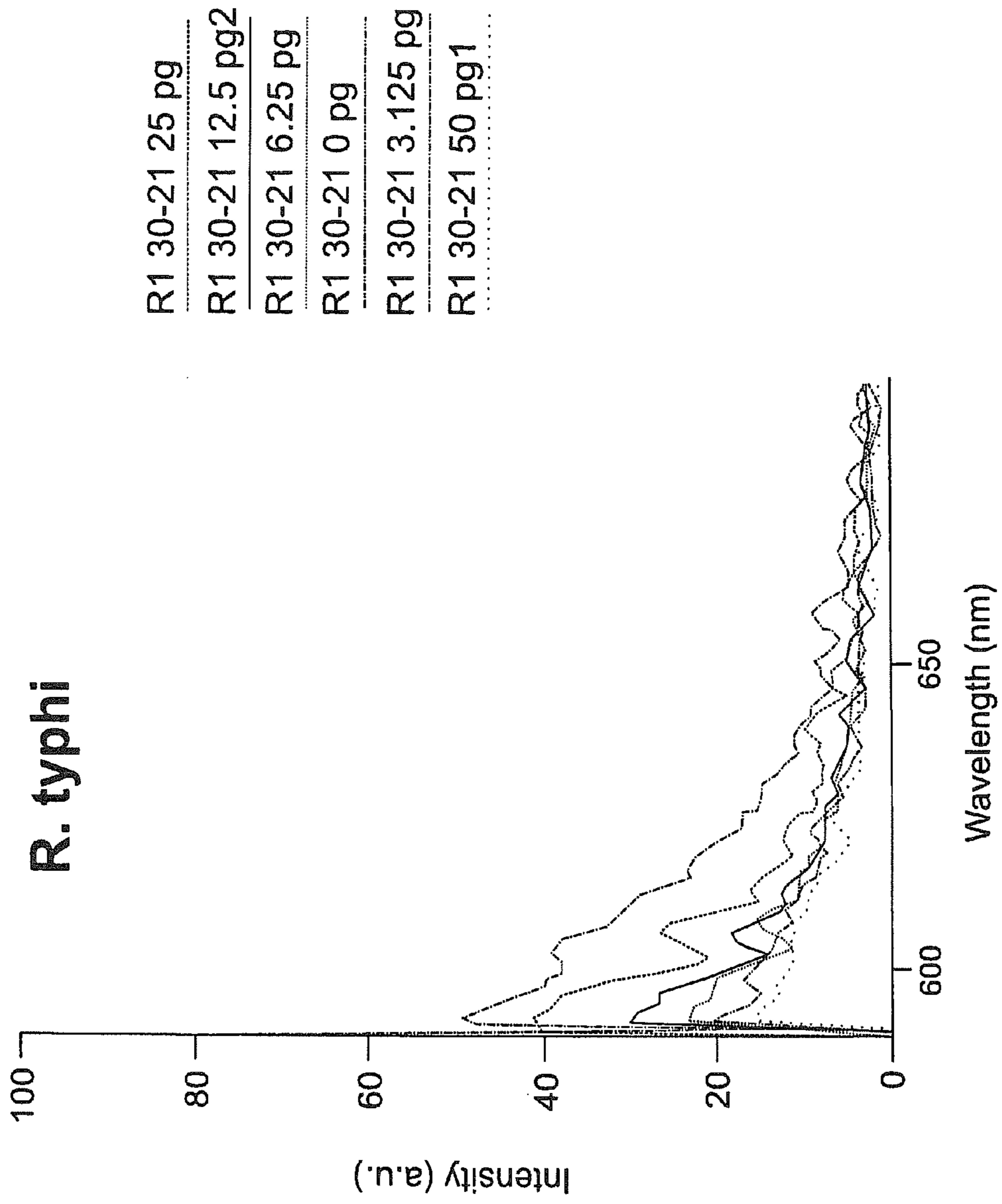




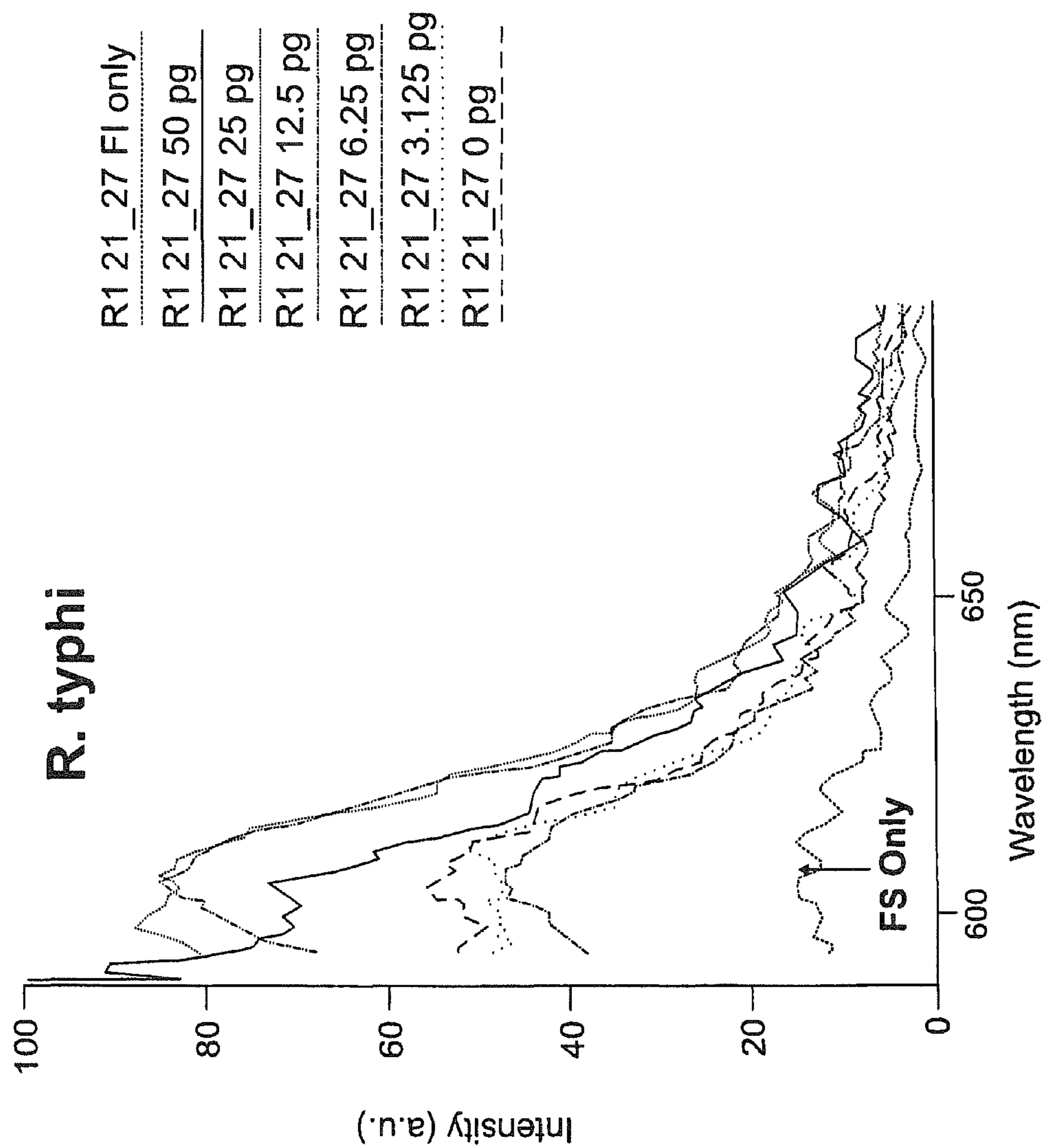
**Fig. 6C**



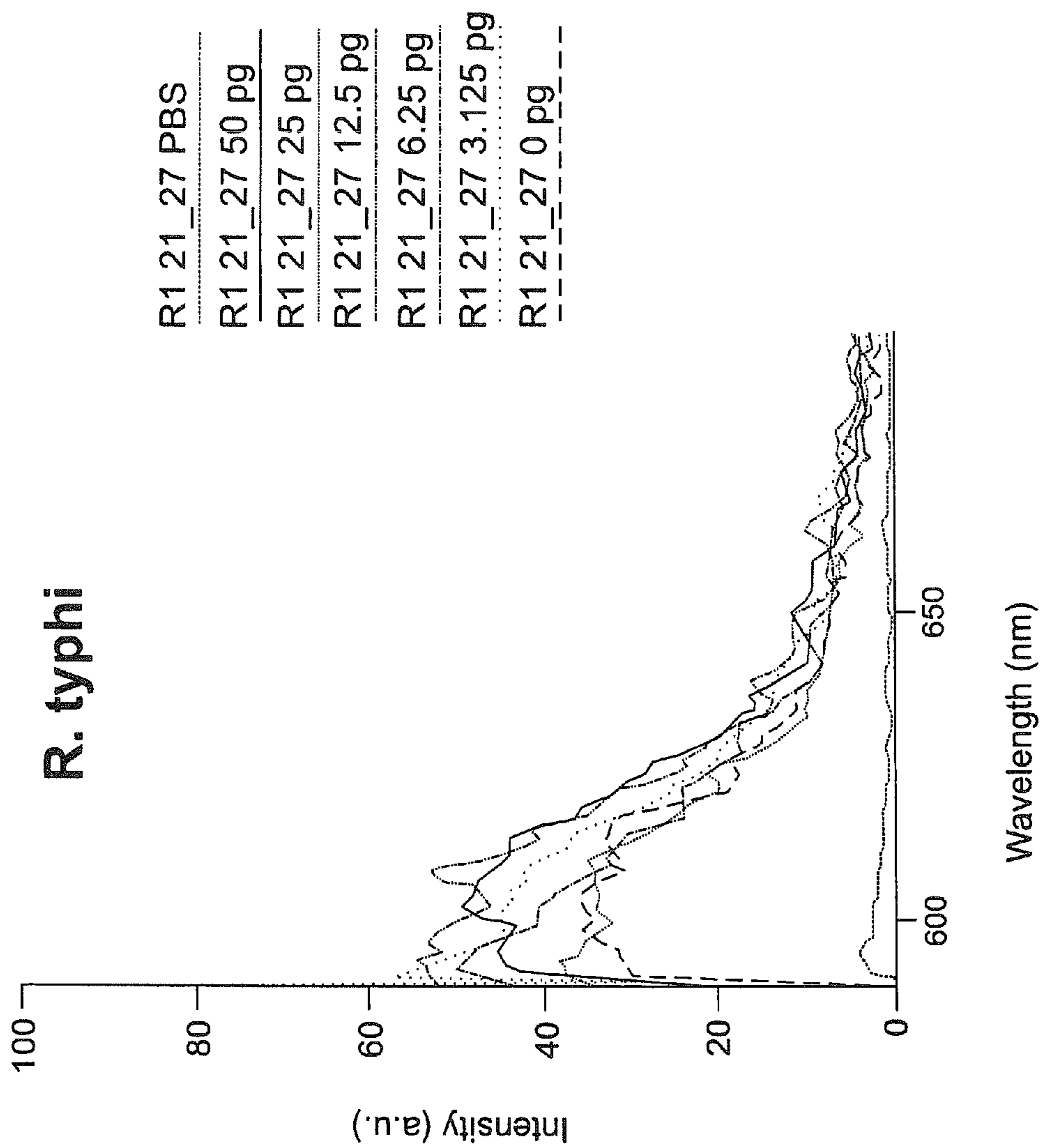
**Fig. 6D**



**Fig. 7A**

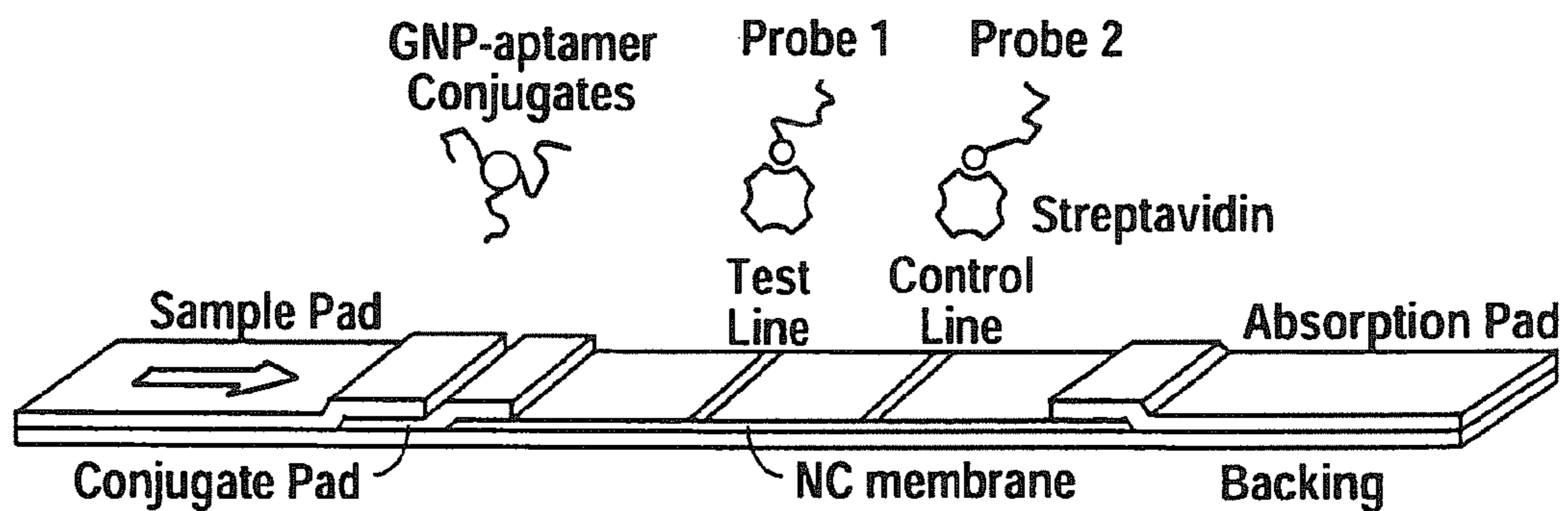


**Fig. 7B**

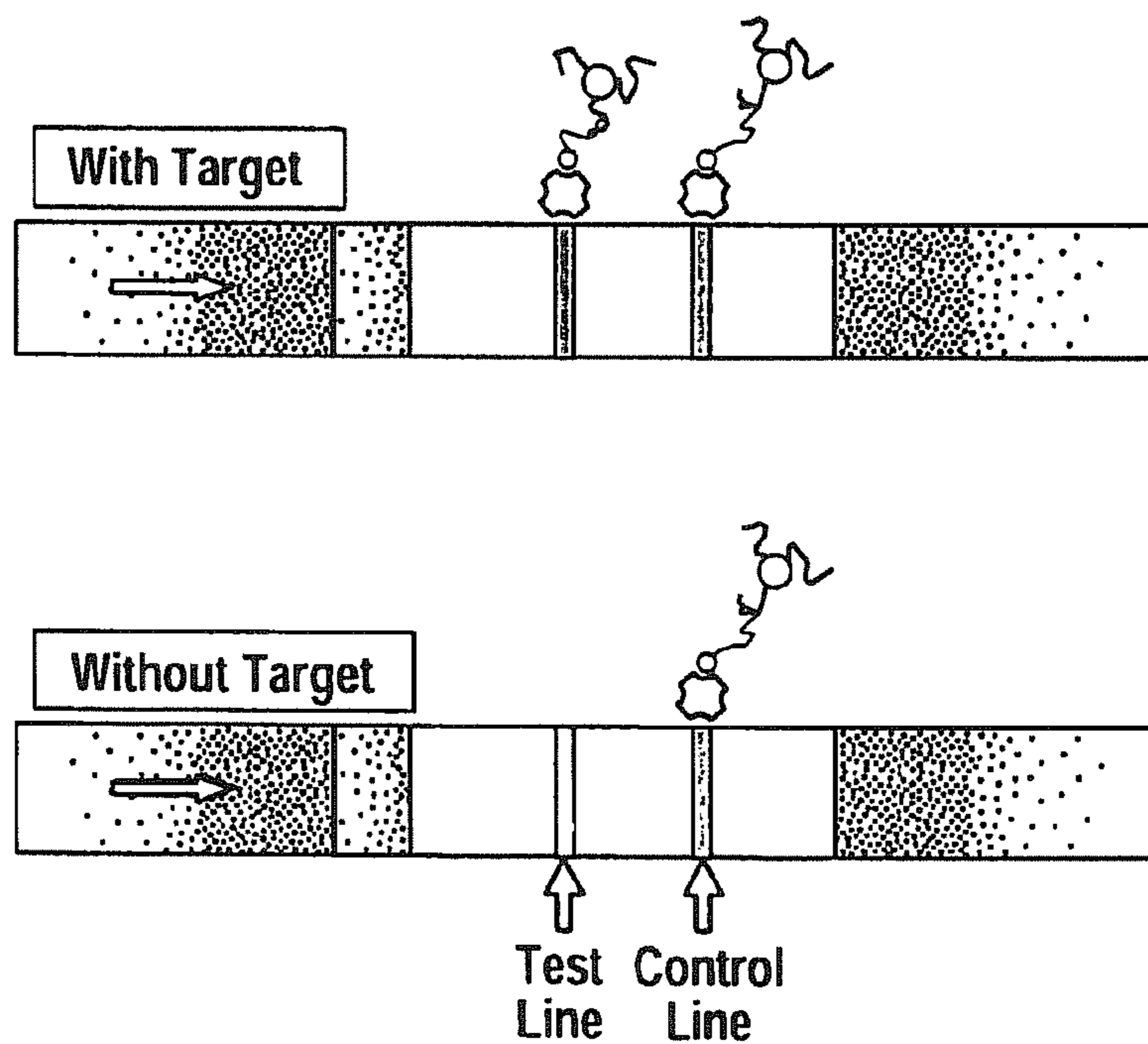


**Fig. 7C**

### General DNA Ligand or Aptamer Lateral Flow Test Strip Format



GNP; Gold Nanoparticle  
NC; Nitrocellulose



**Fig. 8**

Chikungunya  
Envelope

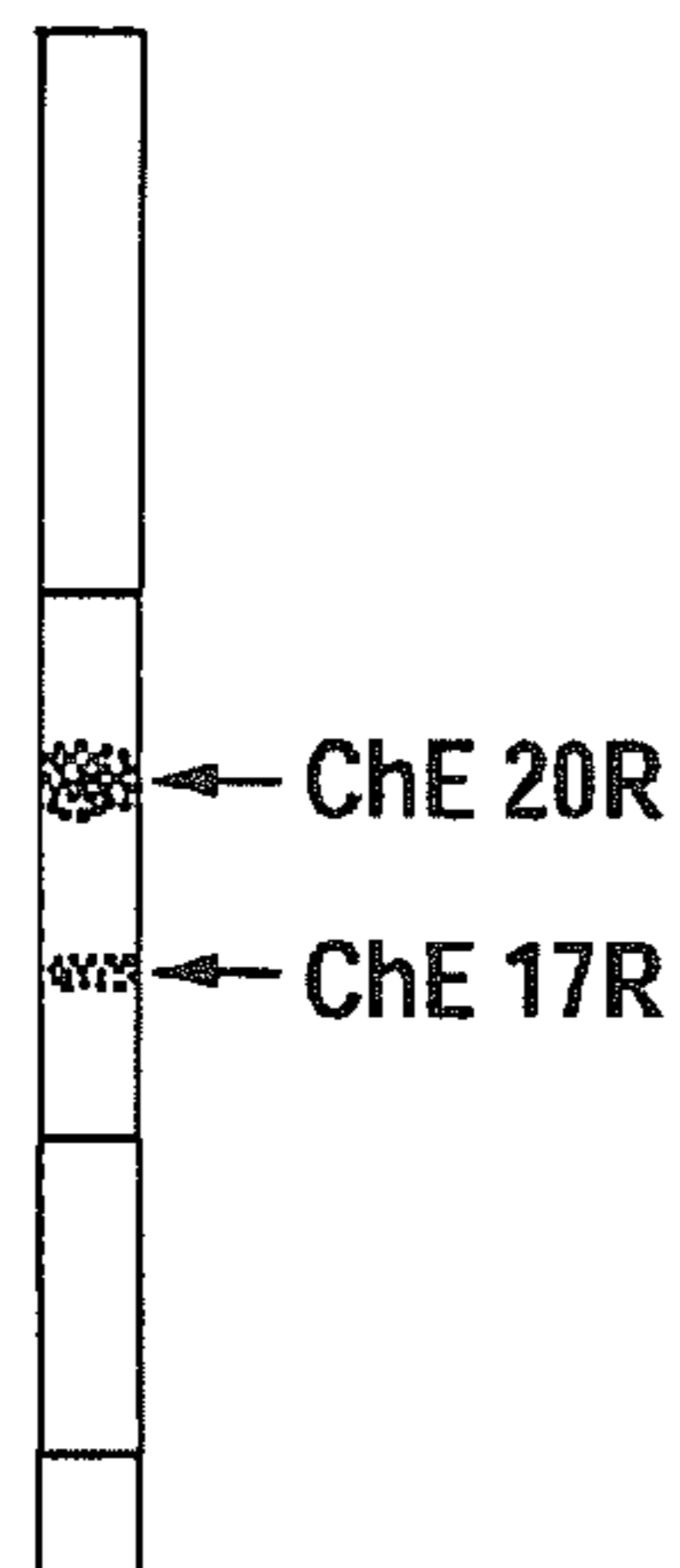


Fig. 9A

Crimean-Congo  
Hemorrhagic Fever  
Strain

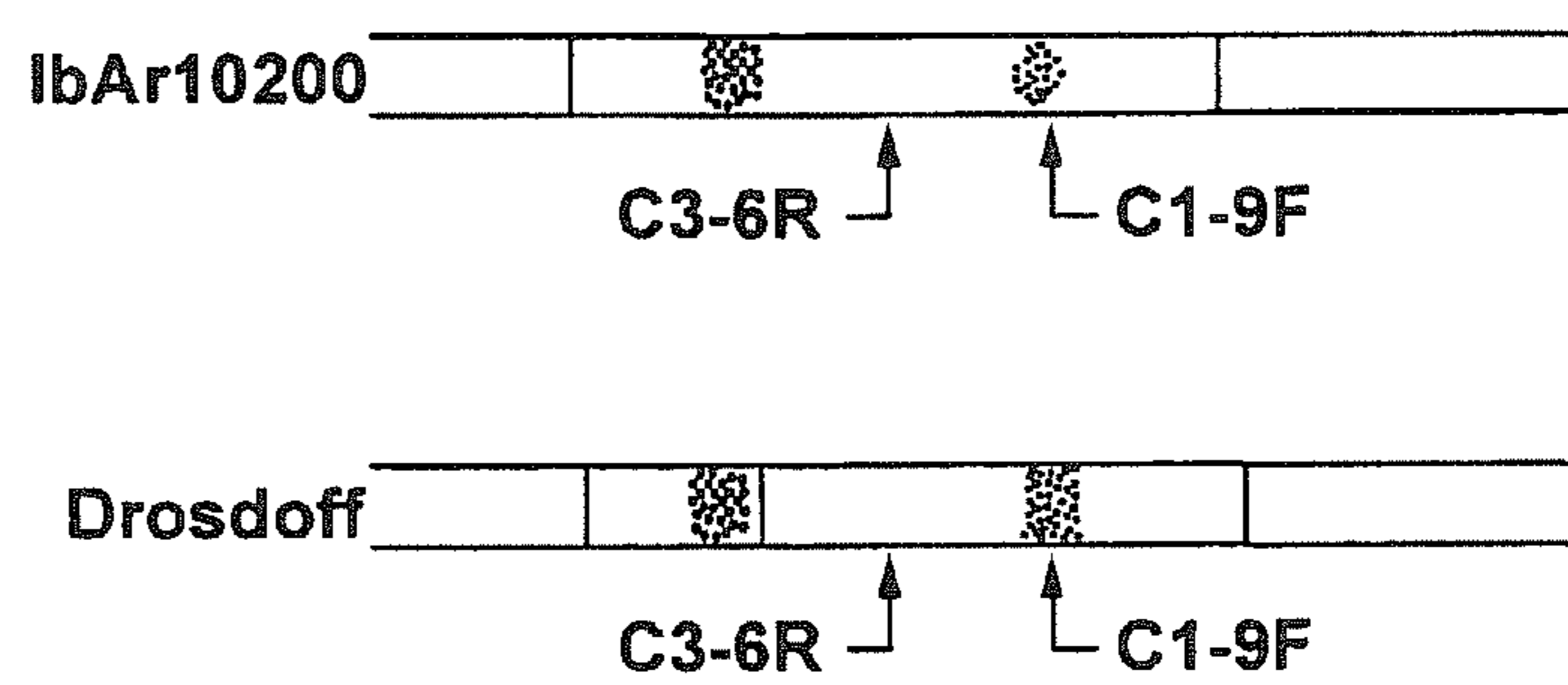


Fig. 9B

West Nile Virus Aptamer

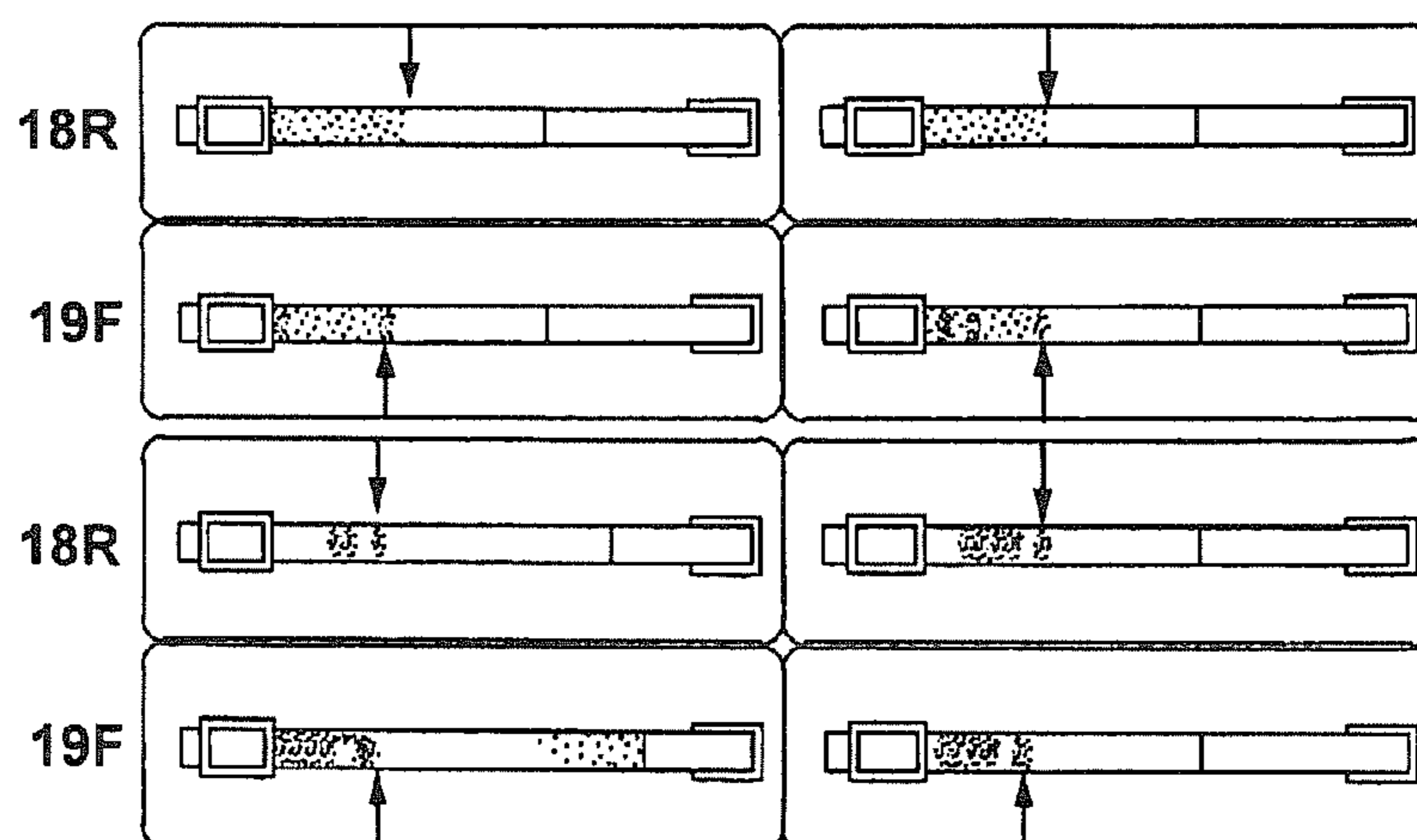


Fig. 9C

**METHODS AND COMPOSITIONS OF DNA  
LIGANDS FOR ARTHROPOD-BORNE  
PATHOGEN DETECTION AND  
PROPHYLAXIS OR THERAPY**

CLAIM OF PRIORITY TO PRIOR APPLICATION

This application claims the benefit of the filing date of Provisional U.S. Application Ser. No. 61/401,731, filed on Aug. 18, 2010, entitled "Methods and Compositions of DNA Ligands for Arthropod-borne Pathogen Detection and Prophylaxis or Therapy", and Non-Provisional U.S. patent application Ser. No. 13/199,082, filed Aug. 18, 2011, entitled "Methods and Compositions of DNA Ligands for Arthropod-borne Pathogen Detection and Prophylaxis or Therapy", the entire disclosures of which are hereby incorporated by reference into the present disclosure, to include the Sequence Listing previously submitted with the subject application(s).

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention pertains to the field of nucleic acid (especially DNA) ligand-based diagnostics and prophylaxis or passive "immunity" (i.e., binding and blocking infectious agents from infecting or progressing throughout the body). In particular, the application relates to single-stranded deoxyribonucleic acid ("DNA") and ribonucleic acid ("RNA") ligand sequences, whether individual or linked together to form longer multiple binding site "receptors," that specifically target and bind to arthropod-borne bacteria and viruses (arboviruses). Such arthropod-borne bacteria include the *Rickettsia* genus that can cause typhus or spotted fevers and deadly hemorrhagic fevers or other lethal diseases such as Crimean-Congo Hemorrhagic Fever ("CCHF") viruses, Chikungunya ("CHIK") viruses, Dengue viruses, and West Nile Viruses ("WNV") or parasites such as various species of *Leishmania*. The arthropod vectors can include mosquitoes, ticks, lice, mites, midges, fleas, flies and sandflies.

These individual or linked DNA ligand (aptamer) sequences represent valuable target analyte-responsive components of diagnostic devices or biosensors. A biosensor can be defined as any device that employs a biologically-derived molecule as the sensing component and transduces a target analyte binding event into a detectable physical signal (including, but not limited to, changes in light intensity, absorbance, emission, wavelength, color, electrical conduction, electrical resistance, or other electrical properties, etc). Once bonded with the target, these DNA ligand sequences can be used to qualitatively determine the presence of target analyte, as well as to quantify the target analyte amount, in a sample using a broad variety of assay types and diagnostic or sensor platforms including, but not limited to: affinity-based lateral flow test strips, enzyme-linked ("ELISA-like") microplate assays, membrane blotting, surface plasmon resonance ("SPR"), surface acoustic wave ("SAW") or surface transverse wave ("STW") sensors, magnetic bead ("MB")-based capture, plastic-adherent sandwich assays, electrochemiluminescence ("ECL"), radioisotopic, fluorescence intensity assays including quantum dot ("QD") or other fluorescent nanoparticle ("NP")-based assays, fluorescence lifetime, and fluorescence polarization ("FP") assays.

The invention includes general DNA ligand or aptamer-based methods of detection and quantification of these arthropod-borne diseases or related pathogens in homogenized or chemically (chaotrope or detergent)-extracted arthropods or animal or human body fluids such as whole blood, plasma,

serum, sputum or saliva, interstitial, synovial, or cerebrospinal fluid aspirates, mucus, and urine or solid biopsy samples.

In addition, these DNA ligand sequences are valuable in competitive displacement assays which are not solely dependent on affinity or avidity to produce sensitive detection. Such assays would include competitive displacement fluorescence or Förster resonance energy transfer ("FRET") assays or DNA ligand "beacon" FRET assays. Each of these types of assays and detection platforms has different applications in either central laboratories or as a component of portable detectors to identify infected arthropods (homogenates or extracts) or human or animal body fluids.

It has been established that aptamers can replace antibodies in lateral flow or chromatographic test strip assay formats and may enhance detection sensitivity by virtue of higher affinity versus comparable antibodies. Such test strips or dipsticks represent rapid, inexpensive and convenient visual detection formats. The user can add various human body fluids or arthropod homogenates or extracts (proteins removed from arthropod guts by low levels of detergents or chaotropes including guanidinium or metal salts) and obtain a positive or negative result by visualizing a red colloidal gold-aptamer conjugate line. Use of fluorescent nanoparticle ("FNP")- or quantum dot ("QD")-DNA aptamer conjugates on the test line of a lateral flow test strip in combination with a handheld UV penlight or common laser pointer to illuminate the fluorescent test and control lines appears to confer even greater sensitivity to the assay.

These individual or linked DNA ligand (concatamer-like aptamer) sequences represent valuable target analyte-responsive components of diagnostic devices or "biosensors." A biosensor is defined as any sensor device that employs a biologically-derived molecule as the sensing component and transduces a target analyte binding event into a detectable physical signal, including, but not limited to, changes in light intensity, absorbance, transmittance, refraction (Surface Plasmon Resonance or SPR), wavelength, color, agglutination of cells or particles, fluorescence intensity, fluorescence lifetime, fluorescence polarization or anisotropy, fluorescence correlation spectroscopy ("FCS"), fluorescence or Förster resonance energy transfer (FRET; nonradiative dipole-dipole coupling of fluorophores or fluorophores and quenchers), upconverting phosphor (anti-Stokes shifts), two-photon interaction phenomena, Raman spectroscopy or surface-enhanced Raman spectroscopy ("SERS"), electrical conduction, electrical resistance or other electrical properties, mass, photon or radioactive particle emissions, etc.

Once bonded with the target, these DNA ligand sequences can be used to qualitatively determine the presence of analyte, as well as to quantify or semi-quantify the target analyte amount in a sample using a broad variety of assay types and diagnostic or sensor platforms including, but not limited to, affinity-based lateral flow test strips, membrane blotting, surface plasmon resonance ("SPR"), surface acoustic waveguides ("SAW") or surface transverse waveguides ("STW") devices, magnetic bead ("MB")-based capture, plastic-adherent sandwich assays ("PASA"), chemiluminescence ("CL"), electrochemiluminescence ("ECL"), radioisotopic, fluorescence intensity, including quantum dot ("QD") or other fluorescent nanoparticle ("FNP") of dye-based, fluorescence lifetime, and fluorescence polarization ("FP") assays, or enzyme-linked ("ELISA-like") microplate assays.

Finally, since envelope- or capsid-protruding spike proteins on viral surfaces control binding to and invasion of host cells, the DNA ligands may have prophylactic or therapeutic value by simply binding or coating the viral spike proteins to prevent attachment to host cell surfaces and inhibiting virus



entry into host cells. The prophylactic effect has been demonstrated for H5N1 influenza virus with similar DNA ligand or aptamer sequences that coated the H5N1 viruses and prevented or severely inhibited invasion of host cells and slowed or stopped subsequent viral replication.

#### 2. Background Information

The DNA ligand sequences listed herein were derived by iterative cycles of affinity-based selection of DNA ligands from a randomized library using rickettsial or leishmanial surface molecules (cold 1.5M MgCl<sub>2</sub>-extracted outer membrane proteins; OMPs), recombinant surface proteins or synthetic peptide epitopes derived from the known amino acid sequences of viral envelope protein spikes or other surface epitopes as defined in Table 1. After affinity-based selection, the DNA ligands were subjected to polymerase chain reaction (“PCR”) amplification followed by cloning and traditional Sanger dideoxynucleotide DNA sequencing. The utility of many of the sequences in ELISA-like plate assays as well as fluorescence (intensity) assays have been used and verified as illustrated by Tables 2-7 and FIGS. 2-7 and FIG. 9.

Some of the sequences function more effectively in affinity-based (ELISA-like, lateral flow strips, or fluorescence intensity) assays, while other DNA ligand sequences against the same pathogen targets have functioned better in competitive FRET assays). Therefore, all of the listed sequences have potential utility in some assay format for use in one or more tests or types of sensors for arthropod-borne pathogens and their therapy or prevention.

Arthropod-borne pathogens can present serious threats to human health in the form of alphaviruses or flaviviruses (arboviruses) that can cause encephalitis or hemorrhagic fevers or shock syndromes and death. Similarly, untreated rickettsial infections can lead to serious cases of spotted fevers or typhus with significant mortality. Finally, visceral and non-visceral leishmaniasis are serious conditions which are difficult to treat and can be fatal. All of these diseases are transferred to man by arthropod vectors (flying or other insects including mosquitoes, fleas, mites, midges, ticks, lice, flies and sandflies).

Rapid, accurate, and ultrasensitive detection of arthropod-borne diseases aids physicians by supplying key diagnostic information in the early phases of infection. This in turn allows administration of the proper antibiotic or anti-viral agent to treat these potentially deadly diseases before they become life-threatening. Current methods of detection such as lateral flow immunochromatographic test strips, although rapid, are not very sensitive and miss early stage disease detection or rely on detection of antibodies against the disease agent which may take weeks to emerge in the patient’s serum. The same is true for many slower and more tedious ELISA tests which are somewhat more sensitive than lateral flow test strips, but often rely on detection of antibodies slowly made by the patient against the infectious pathogen over a period of weeks to months. In addition, there are no truly effective therapies for some of the arboviruses.

The DNA ligands disclosed herein can potentially and directly detect many arthropod-borne pathogenic microbes with greater sensitivity and speed than conventional antibodies. These same DNA ligands or aptamers may also have value as high affinity and highly specific binding agents against arboviruses, *rickettsia* and parasites to block or slow disease progression.

#### SUMMARY OF THE INVENTION

The present invention provides specific DNA sequence information for nucleic acid ligands selected and amplified

from randomized pools to bind arthropod-borne pathogenic *rickettsia*, arboviruses and parasites in a variety of assay formats and sensor or diagnostic platforms. In addition, the DNA ligands may bind and slow or block infection and inhibit disease progression due to these pathogens, thereby functioning as prophylactics or therapeutics in vivo.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1A illustrates the general structure of an IgG antibody showing the linkage of hypervariable (HV) amino acid regions used for actual binding to target epitopes on complex antigens.

FIG. 1B illustrates nucleotide segments designed into the cDNA template.

FIG. 2 illustrates fluorescence spectra from titration of a plastic-adherent DNA ligand-magnetic bead and fluorescent nanoparticle assay.

FIG. 3 illustrates the results of screening a matrix of 5-biotinylated capture aptamer-magnetic beads and TYE 665 dye-5’-labeled reporter aptamers from the Crimean-Congo viral aptamer pool represented by SEQ ID NOs. 663-756.

FIG. 4 illustrates titration of CCHF viral peptides conjugated with 1% glutaraldehyde to bovine serum albumin.

FIG. 5 illustrates the specificity of the combination 22 CCHF plastic-adherent assay which detects gamma-irradiated CCHF viruses.

FIGS. 6A-6D illustrate similar plastic-adherent (PASA) DNA ligand-magnetic bead and DNA ligand-fluorescent nanoparticle sandwich assay fluorescence results.

FIGS. 7A-7C illustrate the plastic-adherent (PASA) sandwich assay results for three different combinations of capture and reporter DNA ligands for detection of *Rickettsia typhi*.

FIG. 8 illustrates the probe scheme used for the test and control lines on successful lateral flow nitrocellulose aptamer chromatographic test strips.

FIGS. 9A-9C show several successful attempts to detect either gamma-irradiated viruses or purified BSA-glutaraldehyde-viral spike peptide conjugates on lateral flow strips.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

There is no single preferred embodiment for use of the DNA ligand sequences in assay or biosensor formats identified herein. Rather, as is the case with monoclonal antibodies, the sequences are useful to varying extents in a variety of assay formats and sensors or diagnostic devices chosen from the following non-comprehensive and non-exclusive list: lateral flow or chromatographic test strips or “dipsticks,” ELISA-like enzyme-linked microplate assays, magnetic bead-based capture assays, ECL or other chemiluminescence assays, radioisotopic assays and a variety of fluorescence assays including, but not limited to, fluorescence intensity or spectrofluorometry, lifetime, fluorescence polarization (“FP”) and fluorescence resonance energy transfer (“FRET”) assays (both end-labeled beacons and competitive FRET), SAW and STW-based detection, SPR.

Referring to the figures, FIG. 1A illustrates the general structure of an IgG antibody showing the linkage of hypervariable (“HV”) amino acid regions used for actual binding to target epitopes on complex antigens. Linear linkage of HV binding sites adds affinity, avidity and specificity to the antibody binding to complex targets. FIG. 1A is a Porter stick model of an antibody revealing the multiple hypervariable antigen combining or binding sites on both the heavy and light chains.

## 5

FIG. 1B illustrates the concept of linking aptamers or their binding sites in a linear fashion (although 2-D and 3-D dendrimer-like linkages are also possible) to mimic the linkage of multiple HV regions in antigen combining sites of antibody chains to enhance affinity, epitopes. The linked DNA ligands or aptamers are somewhat like concatamers, but can vary in the composition of DNA molecules that are linked together (i.e., can be non-repetitive versus repetitive concatamers). DNA ligands or aptamers or their shorter (5-10 base) binding sites can be linked during chemical or biochemical (enzymatic) synthesis to enhance aptamer binding affinity, avidity or specificity for improved assay sensitivity and selectivity.

As nature, immunology, and FIG. 1 suggest, the linkage of binding sites is beneficial in terms of enhancing receptor affinity, avidity (tensile binding strength), and selectivity versus complex targets with two or more distinct epitopes. This linkage can be sequential and linear (one-dimensional as in antibody heavy and light chain linkage of HV regions, FIG. 1A) or could be expanded into two or three dimensions much like DNA dendrimers or other more complex structures known to those skilled in the art. The linked DNA ligands or aptamers are somewhat like concatamers, but can vary in the composition of DNA molecules or subunits that are linked together (i.e., can be non-repetitive versus repetitive concatamers).

Linear linkage by chemical synthesis is quite facile, if one already knows the aptamer DNA sequences or shorter (approximately 5-10 base) binding site sequences to be linked. One can simply design one long sequence to incorporate the desired aptamers or binding sites with repetitive poly-adenine (A), poly-cytosine (C), poly-guanine (G), poly-thymine (T), poly-uridine (U), or other intervening sequences that are unlikely to bind the target epitopes. The length of the composite aptamer construct will be limited by current chemical synthesis technology to about 200 bases. However, cellular biosynthesis or enzymatic synthesis by polymerase chain reaction or asymmetric PCR (producing predominately single-stranded ss-DNA from a template) would not be so limited and should produce aptamer constructs up to 2,000 bases before the Taq polymerase or other thermostable DNA polymerase falls off the template DNA. The 2 kilobase Taq polymerase limit is the basis for the well-known Random Amplification of Polymorphic DNA ("RAPD") method of DNA or genetic "fingerprint" analyses in which primers greater than 2 kilobases apart fail to produce a PCR product or amplicon, because Taq becomes disengaged from the template DNA before traveling 2,000 bases. In this way, lengthy aptamer constructs of less than 2 kilobases could be made from complementary DNA templates that would enable binding of different epitopes that are distal on the surface of relatively large objects such as viruses and whole bacteria, *rickettsia*, or eukaryotic parasites and other cells. Again, poly-A, C, G, T, or U or other linker nucleotide segments (similar to the concept of genetic "introns") could be designed into the cDNA template to produce the resultant nascent strand to ligate aptamers or aptamer binding sites together into one contiguous linear chain with intervening linkers as shown in FIG. 1B.

For 2-D or 3-D linked aptamer structures a variety of linker chemistries are available, but the preferred embodiment is probably addition of a UniLink™ primary amine group somewhere in the mid-section of a larger multi-aptamer construct followed by covalent linkage and branching of two or more such multi-aptamer constructs by means of bifunctional linkers such as low levels ( $\leq 1\%$ ) of glutaraldehyde, carbodiimides, sulfo-EGS, sulfo-SMCC or other such bifunctional linkers familiar to those skilled in conjugate chemistry. This

## 6

strategy would result in larger flower-like or dendrimer-like 2-D or 3-D structures consisting of two or more lengthy multi-aptamer structures.

FIG. 2 shows fluorescence spectra from titration of a plastic-adherent DNA ligand-magnetic bead and fluorescent nanoparticle assay for detection of gamma-irradiated (inactivated) Crimean-Congo Hemorrhagic Fever (CCHF) viruses. The spectra or curves each represent fluorescence intensity results as a function of wavelength elicited by interaction with various virus dilutions after collection on aptamer or DNA ligand-biotin-streptavidin-magnetic microbeads of 2.8 microns in diameter (Dynal brand from Invitrogen Corp.), exposure to red-emitting fluorescent nanoparticles (FNPs) or Fluospheres (Invitrogen, Inc.) and two washes in 1x binding buffer (1x BB; 0.5M NaCl, 10 mM Tris and 1 mM MgCl<sub>2</sub> at pH 7.6). Excitation was at 660 nm and the photomultiplier tube of the spectrofluorometer was set at 900 V. The spectra were obtained using DNA ligands for capture on magnetic beads and red fluorophore-labeled reporter DNA ligands selected from the pool of aptamers represented by SEQ ID NOs. 1-168. In particular, aptamer C1-1/7F (SEQ ID NO. 3) was used for gamma-irradiated viral capture on magnetic beads and 5'-amino aptamer C1-9F (SEQ ID NO. 15) was conjugated to red FNPs by means of a carbodiimide bond, purified and used as the reporter reagent. The clear detection of the 1;6400 dilution above the background curve suggests detection of as few as 150 CCHF virus particles.

FIG. 3 shows the results of screening another matrix of 5-biotinylated capture aptamer-magnetic beads and TYE 665 dye-5'-labeled reporter aptamers from the Crimean-Congo (CCHF) viral aptamer pool represented by SEQ ID NOs. 663-756. The top 5 capture and reporter sandwich assay aptamer combinations were evaluated in all 25 (5 capture x 5 reporter) possible combinations using a handheld Picofluor™ fluorometer set to its highest sensitivity (STD VAL=999.0). After washing in buffer on a permanent magnetic collection rack and reading this plastic-adherent assay in the polystyrene cuvettes, combination 22 (Gn6-25R; SEQ ID NO. 98) capture aptamer-biotin on streptavidin magnetic beads combined with E7A-18F; SEQ ID NO. 689) 5'-TYE 665-labeled reporter aptamer) was shown to be the strongest or most intense possible assay combination for further development.

FIG. 4 illustrates titration of CCHF viral peptides conjugated with 1% glutaraldehyde to bovine serum albumin (BSA) and purified by size-exclusion chromatography in the void volume of a Sephadex G25 column to emulate CCHF virus particles in pure phosphate buffered saline (PBS), a 50:50 PBS to human serum mix or 100% human serum matrix to test detection with the CCHF combination 22 assay using the Picofluor™ handheld fluorometer at its highest sensitivity setting. Clearly CCHF combination 22 detected the viral stimulant quite well in buffer and continued to detect the stimulant even in pure human serum, albeit with less intense fluorescence output.

FIG. 5 shows the specificity of the combination 22 CCHF plastic-adherent assay which detects gamma-irradiated CCHF viruses of a comparable concentration much more intensely than unrelated Adenovirus, MS-2 bacteriophage, or Reovirus Type 3 Abney strain viruses.

FIG. 6 illustrates similar plastic-adherent (PASA) DNA ligand-magnetic bead and DNA ligand-fluorescent nanoparticle sandwich assay fluorescence results for the detection of *Rickettsia conorii* to a level of approximately 3  $\mu$ L or 75 cells in some cases. Various DNA ligand sequences are used in capture and reporter roles in the four different experiments from the pool of SEQ ID NOs. 549-662.

FIG. 7 illustrates the plastic-adherent (PASA) sandwich assay results for three different combinations of capture and reporter DNA ligands for detection of *Rickettsia typhi*. Serial dilutions of the *rickettsia* were evaluated using a spectrofluorometer and red-emitting fluorescent nanoparticles. Again, these sandwich assay aptamer combinations were drawn from the pool of SEQ ID NOs. 549-662.

FIG. 8 illustrates the aptamer-5'-biotin-streptavidin-gold nanoparticle (GNP) or fluorescent nanoparticle (FNP) and streptavidin-biotin-5'-primer probe (to grab the complementary 18 base constant primer regions on the DNA ligand ends) scheme used for the test and control lines on successful lateral flow nitrocellulose aptamer chromatographic test strips displayed in FIG. 9 and described in the specifications or main text.

FIG. 9 documents several successful attempts to detect either gamma-irradiated viruses or purified BSA-glutaraldehyde-viral spike peptide conjugates on lateral flow strips using the method shown in FIG. 8. In particular, panel A shows a strong visible red spot indicating detection of the Chikungunya envelope peptide (ChE) with aptamer ChE 20R (SEQ ID NO. 204) and much fainter detection at the spot where ChE 17R aptamer was laid down and immobilized. Panel B shows similar positive red GNP detection spots for the C1-9F aptamer (SEQ ID NO. 15) detecting two different strains of actual gamma-irradiated CCHF virus, while the CCHF or C3-6R aptamer did not detect the viruses despite its strong performances and evidence of very high affinity in ELISA-like microplate assays and SPR analyses (Tables 2 and 3). Panel C illustrates two successful tests for West Nile Virus (WNV) envelope peptide-BSA conjugates using the WNV-18R and 19R aptamers which correspond to SEQ ID NOs. 306 and 307, respectively. Arrows in each of the panels point to the locations where capture dots or lines of DNA ligands were laid down.

TABLE 1

Targets for DNA Ligand Selection and Development	
Chikungunya (ChE) E1a Virus Surface Peptide (one letter amino acid-coded sequence)	GDIQSRTPESKDVYANTQLVLQRPVAVGTVHVPSQAPSGFKYWLKERGAS
Crimean-Congo Hemorrhagic Fever (CCHF) Virus Surface Peptide Targets (one-letter amino acid coded sequences)	CCHF Peptide 1: RRL L
CCHF Peptide 2:	RKPL
CCHF Peptide 3:	GQGKTIEAYRAREG
CCHF Peptide 4:	GQGKTIEAYRAREGNAST GQGKTIEAYRAREG
CCHF Altamura Gn 611:	TQEGRGHVKLSRGSE
CCHF 11E7-a:	GLKFASLTCTGCYACSSGISCKVRIHVDEPDE
CCHF 11E7-b:	VAASSSLMARKLEFGTDSTFKAFSAMPKTSLCFYIVEREY
CCHF 11E7-c:	EDTQKCVNTKLEQPOSILIEHKGTTIIGK

Dengue Viruses

Recombinant Envelope Proteins Serotypes 1-4 from Viostat Corp., Portland, Me., Cat. Nos. 8812-8815.

*Leishmania* Promastigotes

5 *L. donovani*, *L. major* WR2885 and other species of live cell surface cold (4° C.) overnight 1.5M MgCl<sub>2</sub>-protein extracts obtained from the U.S. Army, Walter Reed Army Institute of Research (WRAIR).

*Rickettsia*

10 *R. belli*, *R. conorii*, *R. parkeri*, *R. rickettsii*, and *R. typhi* frozen cell protein extracts obtained from the U.S Navy Medical Research Command at WRAIR.

Tick-Borne Encephalitis Viruses (TBEV)

15 Recombinant TBEV CE/gE from Feldan Bio Corp. (Boston, Mass. and Quebec, Canada) Cat. No. FB03-80-149.

West Nile Virus (WNV)

Recombinant Envelope Protein from GenWay Biotech Corp. San Diego, Calif., Cat. No. 10-511-248224.

## EXAMPLE 1

## ELISA-Like and SPR Affinity-Based Screening of Arthropod-Borne Pathogen DNA Ligands

25 Table 2 illustrates diversity of affinities for several different CCHF envelope peptide epitopes using two methods (0.1M bicarbonate buffer at pH 8.5 or N-oxy-succinimide-coated microwells) to immobilize the peptides and then carry out a traditional ELISA-like assay with 100 μL of 5'biotinylated DNA ligands for one hour at room temperature (RT, followed by a wash step, addition of 100 μL of 1:2,000 dilution of streptavidin-peroxidase (1 mg/mL stock) for 30 minutes at RT, three more wash steps and finally treatment with one-step ABTS substrate for 10 minutes at RT and reading of absorbance at 405 nm on a microplate reader. Tables 2 and 5-7 show ELISA-like rankings of the various top 3 to 10 DNA ligands by SEQ ID NOs for each of the general arthropod disease categories.

35 The highest ranking or highest affinity DNA ligands register the highest absorbance at 405 nm values and can be used in other types of affinity-based assays besides the ELISA-formatted assays. The highest affinity or highest ranking CCHF DNA ligands such as CCHF1-9F and CCHF3-6R also yielded very high affinity constants of greater 10<sup>8</sup> to 4.23×10<sup>11</sup> by surface plasmon resonance (SPR) using a Biacore X-100 sensor as documented in Tables 3 and 4. The same or similar ELISA-like methods were used to screen and rank DNA ligand affinities against cognate arboviral, rickettsial and *Leishmania* targets as shown in Tables 5-7. Table 8 chronicles all of the actual candidate DNA ligand nucleotide sequences and corresponding SEQ ID NOs for all of the arthropod-borne pathogen-binding DNA ligands.

TABLE 2

ELISA-Like Rankings for Absorbance of Highest Affinity CCHF DNA Ligands							
NaHCO <sub>3</sub> -Immobilized				NOS-Immobilized			
Rank	Abs 405	SEQ ID NO.	Aptamer	Rank	Abs 405	SEQ ID NO.	Aptamer
1	2.669	31	CCHF3-4F	1	2.219	15	CCHF1-9F
2	2.478	36	CCHF3-6R	2	2.141	36	CCHF3-6R
3	2.473	32	CCHF3-4R	3	2.048	4	CCHF1-1/7R
4	2.243	15	CCHF1-9F	4	1.987	32	CCHF3-4F
5	1.657	28	CCHF2-10R	5	1.987	16	CCHF1-9R

9

TABLE 2-continued

ELISA-Like Rankings for Absorbance of Highest Affinity CCHF DNA Ligands							
NaHCO <sub>3</sub> -Immobilized				NOS-Immobilized			
Rank	Abs 405	SEQ ID NO.	Aptamer	Rank	Abs 405	SEQ ID NO.	Aptamer
6	1.645	25	CCHF2-8F	6	1.987	2	CCHF1-1R
7	1.618	18	CCHF1-10R	7	1.949	14	CCHF1-6R
8	1.561	16	CCHF1-9R	8	1.903	3	CCHF1-1/7F
9	1.505	38	CCHF3-7R	9	1.853	7	CCHF1-3F
10	1.483	40	CCHF3-8R	10	1.848	25	CCHF2-8F

TABLE 3

Summary of CCHF DNA Ligand SPR Data				
CCHF DNA Ligand	vs. Peptide	K <sub>d</sub>	K <sub>d</sub> (picoM)	
1-9F	Peptide 1	1.23 × 10 <sup>8</sup>	8.13	
1-9F	Peptide 3	3.06 × 10 <sup>6</sup>	327	
1-9F	Peptide 4	3.2 × 10 <sup>10</sup>	0.31	
3-4R	Peptide 3	8.85 × 10 <sup>7</sup>	11.3	
3-4R	Peptide 4	3.1 × 10 <sup>6</sup>	322	
3-6R	Peptide 3	4.23 × 10 <sup>11</sup>	0.24	
3-6R	Peptide 4	2.19 × 10 <sup>4</sup>	45,700	

TABLE 4

Summary of Aptamer K <sub>d</sub> Values vs. 11E7 CCHF Envelope Peptides by SPR				
DNA Ligands or Aptamers	CCHF Peptides			
	11E7A	11E7B	11E7C	
E7A-11R	4.62 × 10 <sup>8</sup>	7.34 × 10 <sup>7</sup>	3.11 × 10 <sup>9</sup>	
Drosdov 4-7/10R	5.39 × 10 <sup>9</sup>	1.27 × 10 <sup>7</sup>	Not done	
Drosdov 17R	2.09 × 10 <sup>9</sup>	6.08 × 10 <sup>8</sup>	Not done	
E7B-14R	5.2 × 10 <sup>8</sup>	9.37 × 10 <sup>7</sup>	3.72 × 10 <sup>7</sup>	
Gn6-25R	5.5 × 10 <sup>8</sup>	2.07 × 10 <sup>8</sup>	1.48 × 10 <sup>10</sup>	
E7A-18F	1.39 × 10 <sup>7</sup>	3.48 × 10 <sup>9</sup>	1.92 × 10 <sup>7</sup>	

TABLE 5

ELISA-Like Rankings of Various Arthropod-borne Virus DNA Ligands		
Sequence	SEQ ID NO.	A 405 nm
TBEV-2 R	760	2.601
TBEV-8 R	772	2.430
TBEV-2 F	759	2.314
TBEV-1 R	758	2.150
TBEV-4 R	764	2.124
TBEV-6 R	768	2.124
TBEV-6 F	767	2.067
TBEV-5 F	765	2.057
TBEV-7 F	769	2.021
TBEV-7 R	770	1.972

10

TABLE 5-continued

ELISA-Like Rankings of Various Arthropod-borne Virus DNA Ligands		
Sequence	SEQ ID NO.	A 405 nm
TBEV-10F	773	1.951
TBEV-1 F	757	1.935
TBEV-5 R	766	1.925
TBEV-3 R	762	1.908
TBEV-4 F	763	1.881
TBEV-8 F	771	1.847
TBEV-10R	774	1.823
TBEV-3 F	761	1.797
ChE - 16F	195	2.594
ChE - 20R	204	2.562
ChE - 17R	198	2.510
ChE - 19F	201	2.474
ChE - 16R	196	2.464
ChE - 19R	202	2.459
ChE - 17F	197	2.431
ChE - 18F	199	2.388
ChE - 20F	203	2.364
ChE - 18R	200	2.246
WNV 19F	307	2.727
WNV 18R	306	2.654
WNV 20F	309	2.538
WNV 20R	310	2.467
WNV 16F	303	2.450
WNV 16R	304	2.255
WNV 19R	308	2.177
WNV 18F	305	1.997

TABLE 6

ELISA-Like Rankings of Leishmania parasite DNA Ligands		
Sequence	SEQ ID NO.	A 405 nm
Lm 49, 50R	548	2.501
Lm 25R	516	2.406
Lm 1147R	494	2.238
Lm 610F	487	2.212
Lm 16F	501	2.166
Lm 19R	508	2.141

11

TABLE 6-continued

ELISA-Like Rankings of Leishmania parasite DNA Ligands		
Sequence	SEQ ID NO.	A 405 nm
Lm 17R	504	2.091
Lm 3240F	525	2.045
Lm 38F	535	1.979
Lm 13R	496	1.935
Lm 22R		1.916
Lm 31R		1.899
Lm 2643F		1.854
Lm 241R		1.850
Lm 241F		1.849
Lm 46F		1.845
Lm 34R		1.838
Lm 42R		1.835
Lm 4950F		1.806
Lm 7F		1.791
Lm 25F		1.787
Lm 36R		1.709
Lm 15R		1.698
Lm 13F		1.684
Lm 39F		1.679
Lm 21F		1.659
Lm 38R		1.653
Lm 23F		1.644
Lm 46R		1.634
Lm 2643R		1.626
Lm 27F		1.598
Lm 42F		1.596
Lm 22F		1.576
Lm 31F		1.569
Lm 5R		1.537
Lm 7R		1.516
Lm 29R		1.516
Lm 34F		1.516
Lm 9R		1.504
Lm 610R		1.466
Lm 18R		1.446
Lm 19F		1.442
Lm 23R		1.442

12

TABLE 6-continued

ELISA-Like Rankings of Leishmania parasite DNA Ligands		
Sequence	SEQ ID NO.	A 405 nm
Lm 16R		1.437
Lm 45R		1.435
Lm 35R		1.433
Lm 32/40R		1.411
Lm 17F		1.410
Lm 44F		1.391
Lm 45F		1.380
Lm 1F		1.378
Lm 18F		1.367
Lm 37F		1.366
Lm 15F		1.365
Lm 35F		1.305
Lm 1R		1.261
Lm 21R		1.261
Lm 5F		1.252
Lm 39R		1.224
Lm 9F		1.219
Lm 4R		1.217
Lm 1147F		1.216
Lm 27R		1.207
Lm 14F		1.182
Lm 36F		1.181
Lm 3R		1.179
Lm 44R		1.157
Lm 29F		1.125
Lm 4F		1.095
Lm 3F		1.092
Lm 37R		1.048
Lm 14R		0.984

TABLE 7

ELISA-Like Rankings of <i>Rickettsia</i> DNA Ligands				
Type	Species	Aptamer Clone	SEQ ID NO.	Avg. Absorbance at 405 nm
Whole Cell	<i>R. parkeri</i>	Rp-7R	556	1.33
		Rp-14R	568	1.34
		Rp-20F	577	1.37

TABLE 7-continued

ELISA-Like Rankings of <i>Rickettsia</i> DNA Ligands				
Type	Species	Aptamer Clone	SEQ ID NO.	Avg. Absorbance at 405 nm
OMPs	<i>R. rickettsii</i>	Rr-8/14/22R	584	1.21
		Rr-17F	599	1.18
		Rr-23R	610	1.22
	<i>R. typhi</i>	Rt-3R	620	1.48
		Rt-5/16F	623	1.53
		Rt-18R	648	1.45
	<i>R. belli</i>	R5-23F	317	2.93
		R5-39F	347	1.95
		R5-21bR	316	1.89
	<i>R. conorii</i>	R4-1R	352	2.12
		R4-14R	362	2.05
		R4-1F	351	1.99
	<i>R. parkeri</i>	R2-14F	393	2.08
		R2-17R	400	2.05
		R2-5F	379	1.95
	<i>R. rickettsii</i>	R3-39F	413	2.12
		R3-39R	414	2.05
		R3-40R	416	1.99
	<i>R. typhi</i>	R1-21R	426	2.88
		R1-30R	444	2.85
R1-27bF		437	2.62	

## EXAMPLE 2

Ultrasensitive Detection of CCHF Virus and *Rickettsia* by Plastic-Adherent Sandwich Assay

The DNA ligand sequences have repeatedly been reduced to practice and used to detect low levels of CCHF viral envelope epitopes in neat buffer or animal sera as shown in FIG. 2. In this assay, two different CCHF sequences (CCHF 1-1/7F and 1-9F) from the SEQ ID NO. 3 and SEQ ID NO. 15 were 5'-biotin or 5'-amine modified upon synthesis and attached to either 10<sup>6</sup> streptavidin-M280 (2.8 micron diameter) Dynal (Invitrogen, Inc.) MBs for virus capture or custom-made red-emitting carboxyl-coated FNPs (Invitrogen, Inc.) for reporting per test. The lower limit of detection (LLOD or 1:6400 dilution) for this assay was approximately 150 viral particles according to plaque assay data obtained from the U.S. Army at USAMRIID, Ft. Detrick, Md. Excitation was at 600 nm and the photomultiplier tube ("PMT") was set at 900V.

Similarly sensitive plastic-adherent sandwich fluorescence assay results for two species of *rickettsia* cells with LLOD or about 75 cells are shown in FIGS. 5 and 6. These assays also sandwich rickettsial cells between magnetic bead-DNA ligand capture elements and DNA ligand-quantum dot or FNP-labeled reporter aptamers drawn from the SEQ ID NOs given in Table 8.

## EXAMPLE 3

## Lateral Flow (LF) Aptamer Sandwich Assays for Arthropod-Borne Bacteria or Viruses Using Colloidal Gold or Fluorescent Nanoparticles

Aptamer-based LF test strips are assembled much like traditional immunochromatographic strips by combining a Whatman GB002 sample pad, a Whatman Standard 17 conjugate pad, Millipore High Flow 240 analytical membrane

(for slower migration and greatest sensitivity) and a Whatman 470 wicking or absorbent applied to a pressure sensitive sticky laminate backing. The sample pad is soaked in 0.05M Tris-HCl (pH 8.03) with 0.15 mM NaCl and 0.25% Triton X-100 for 30 minutes followed by air drying of the sample pad strip at 37° C. for several hours until completely dry. The components are assembled with the sample pad overlapping the conjugate pad and both the conjugate pad and wicking pads overlapping onto the nitrocellulose analytical membrane at each end of the analytical membrane as shown in FIG. 8. Thereafter, 4 mm wide strips are cut with a sharp paper cutter and laid into plastic cassettes for protection.

The streptavidin-colloidal gold for use in conjugates was obtained from DCN at 10 O.D. units per mL and 100 μL of this reagent was added to 100 μL of each 5'-biotinylated aptamer (1.3 to 1.5 mg/mL). Similarly, 100 μL of each 5'-biotin aptamer were added to 100 μL of simple streptavidin at (0.5 mL, Sigma Chemical Co.) and reagents were gently mixed at RT (20-25° C.) for 30 minutes. Any unbound aptamers were removed by use of sterile 30 kD molecular weight cut off spin columns which were centrifuged at 5,000×g for 10 minutes. The retentate was resuspended or rehydrated in 100 μL of sterile 1× BB and used in LF test strip experiments. The capture lines or "dots" (droplets) were laid down as 1 μL droplets a few millimeters from the conjugate pad on Millipore High Flow (HF) 240 nitrocellulose analytical membranes, sometimes in series, and air dried prior to baking in a UV oven for 15 minutes. The conjugate pads were loaded with 10-15 μL of colloidal gold-streptavidin-biotin-aptamer conjugates and target analytes were added in 100 μL of 1× BB at the indicated amounts in each figure. All colloidal gold LF tests were conducted and evaluated after 5 minutes of run time to enable the HF 240 membranes time to fully develop. FIG. 9 specifically illustrates examples of successful lateral flow DNA ligand (aptamer) tests with the Chikungunya virus aptamer ChE 20R (SEQ ID NO. 204), Crimean-Congo (CCHF) virus aptamer C1-9F (SEQ ID NO. 15) and the West Nile virus (WNV) aptamers 18R and 19F (SEQ ID NOs. 306 and 307 respectively). Interestingly, some other aptamers used for the experiments represented in FIG. 9 such as ChE 17R and CCHF C3-6R which performed well in ELISA-like plate assays or SPR analysis for affinity assessment (Tables 2, 3, and 5), did not perform well in the lateral flow format, thereby further underscoring a basic tenet of this patent application that not all high-affinity DNA ligands from a given group will perform well in all assay formats.

DNA aptamer-quantum dot and aptamer-fluorescent nanoparticle (FluoSpheres™; "FS" from Invitrogen) conjugates were initially adhering rather tightly to glass fiber conjugate pads and not releasing well or not migrating as far as unconjugated particles, but these obstacles were overcome by switching to a larger porosity HighFlow ("HF") 75 analytical membrane and 40 nm streptavidin-FS to obtain the successful proof-of-concept data shown in FIG. 9C.

Although the invention and DNA ligand sequences listed in Table 8 have been described with reference to specific embodiments, this description is not meant to be construed in a limited sense. Various modifications of the disclosed embodiments, as well as alternative embodiments of the inventions will become apparent to persons skilled in the art upon reference to the description of the invention. It is, therefore, contemplated that the appended claims will cover such modifications that fall within the scope of the invention.

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<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 28

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tggctcccgt at                                                                72

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<210> SEQ ID NO 29
<211> LENGTH: 72
<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 29  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 30  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 30  
  
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 tggctcccgt at 72  
  
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 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 31  
  
 atacgggagc caacaccaca gctgacaata gaaggatata ctgggtaccg atgcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 32  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 32  
  
 atccgtcaca cctgctctgc atcgggtaccc aggatatacct tctattgtca gctgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 33  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 33  
  
 atacgggagc caacaccact gtgtataacc ctaacgctct atgttcgta tgcaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 34  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 34  
  
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 tggctcccgt at 72

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<210> SEQ ID NO 35  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 35

atacgggagc caacaccagc ccccgctgg ttcccgcagg ccgctcgcgt cccgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 36  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 36

atccgtcaca cctgctctcg ggacgcgagc ggctgcggg aaccaggcgg gggctgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 37  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 37

atacgggagc caacaccagc ggcgtcacta gctcagaccg tcccccttg gtatagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 38  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 38

atccgtcaca cctgctctat accaacgggg gacggtctga gctagtgcg cccgtgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 39  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 39

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<210> SEQ ID NO 40  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 40

atccgtcaca cctgctctcc aaggacacgt cacggtattg gcccaacact atggtggttg 60  
ctcccgtat 69

<210> SEQ ID NO 41

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 41

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ggtgtgacgg at 72

<210> SEQ ID NO 42

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 42

atccgtcaca cctgctctgg tgcgtaacag gaaatattct tgtaacgagg acattggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 43

<211> LENGTH: 69

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 43

atacgggagc caacaccata gtggtgggcc aatacggtaa cgtgtccttg gagagcaggt 60  
gtgacggat 69

<210> SEQ ID NO 44

<211> LENGTH: 69

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 44

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ctcccgtat 69

<210> SEQ ID NO 45

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 45

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ggtgtgacgg at 72

<210> SEQ ID NO 46

<211> LENGTH: 72

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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 46  
  
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 tggctcccgt at 72  
  
 <210> SEQ ID NO 47  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 47  
  
 atacgggagc caacaccagc ccggagacta gccgaacct actttttact gtgtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 48  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 48  
  
 atccgtcaca cctgctctac acagtaaaaa gtagggttcg gctagtctcc ggctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 49  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 49  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 50  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 50  
  
 atccgtcaca cctgctctcc tagggtgttg ttttgaata gtatagtcag cacgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 51  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 51  
  
 atacgggagc caacaccagc ccttgtctat tctcttagtt tctgctact ccacagagca 60

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 ggtgtgacgg at 72

<210> SEQ ID NO 52  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 52

atccgtcaca cctgctctgt ggagtagcag gaaactaaga gaatagacaa ggcgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 53  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 53

atacgggagc caacaccagg atagttacca gtcccttggt aaaaatttat atgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 54  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 54

atccgtcaca cctgctctgc atataaattt ttaacaaggg actggtaact atcctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 55  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 55

atacgggagc caacaccata gctttagggt acttttcaga cactatatgt cccagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 56  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 56

atccgtcaca cctgctctgg gacatatagt gtctgaaaag taacctaaag ctatggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 57  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized



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<400> SEQUENCE: 57  
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 gtgacggat 69

<210> SEQ ID NO 58  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 58  
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 ctcccgtat 69

<210> SEQ ID NO 59  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 59  
 atacgggagc caacaccacc tcatagttat gtaataacgc ttatcttgtc cggcagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 60  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 60  
 atccgtcaca cctgctctgc cggacaagat aagcgttatt acataactat gaggtggtgt 60  
 tggtcccgt at 72

<210> SEQ ID NO 61  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 61  
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 ggtgtgacgg at 72

<210> SEQ ID NO 62  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 62  
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 tggtcccgt at 72

<210> SEQ ID NO 63

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 63  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 64  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 64  
  
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 tggctcccgt at 72  
  
 <210> SEQ ID NO 65  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 65  
  
 atacgggagc caacaccacg ccatcccctt gacactacca ctaaatcggc ggtcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 66  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 66  
  
 atccgtcaca cctgctctga cgcgcatgtt agtggtatgt tcaaggggat ggcgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 67  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 67  
  
 atacgggagc caacaccaat agatggataa gggggaaact gccattcggc tagtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 68  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 68  
  
 atccgtcaca cctgctctac taaccgaatg gcagttccc ccttatccat ctattggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 69  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 69

atacgggagc caacaccatt accaggacta actcgttttg cactggtctc agtcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 70  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 70

atccgtcaca cctgctctga ctgagaccag tgcaaacga gttagtctg gtaatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 71  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 71

atacgggagc caacaccacg gacgcgtaca gaggttattc ctgagatccg tgctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 72  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 72

atccgtcaca cctgctctag cacggatctc aggaataaac tctgtacgcg tccgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 73  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 73

atacgggagc caacaccaga aaaaaacaaa cccaaggaat tacaccacaa aagtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 74  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 74

atccgtcaca cctgctctac tttgtggtg taattccttg ggtttgtttt tttctggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 75

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 75

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ggtgtgacgg at 72

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<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 76

atccgtcaca cctgctctgg gccaggtaag aagatgagc ctgtgtaata catgtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 77

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 77

atacgggagc caacaccagc ctttccacct aactagcta tcttatctcc ttatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 78

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 78

atccgtcaca cctgctctat aaggagataa gatagctagt gtaggtgaa aggctggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 79

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 79

atacgggagc caacaccatt aggttggaa ttacattcat gttctgtggt cataagagca 60

ggtgtgacgg at 72

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<210> SEQ ID NO 80  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 80  
  
 atccgtcaca cctgctctta tgaccacaga acatgaatgt aaattccaac ctaatgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 81  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 81  
  
 atacgggagc caacaccaga gcacactaat catggcggcc cggcgcaccc cgacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 82  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 82  
  
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 tggctcccgt at 72  
  
 <210> SEQ ID NO 83  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 83  
  
 atacgggagc caacacaaa ctagacaacc gcccttatac aactgtacc agtagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 84  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 84  
  
 atccgtcaca cctgctctac tggtagctg tgataaagg cggttgtcta gtttggtgtt 60  
 ggctcccgt a 71  
  
 <210> SEQ ID NO 85  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 85

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 atacgggagc caacaccagc atccccgaat aaataatgct gcgctgtaa agatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 86  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 86

atccgtcaca cctgctctat ctttaacagc gcagcattat ttattcgggg atgctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 87  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 87

atacgggagc caacaccaa ttctcgttg acccctaact gtactcttag ccagagcagg 60

tgtgacggat 70

<210> SEQ ID NO 88  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 88

atccgtcaca cctgctctgg ctaagagtac agttaggggt caacgaggaa tttggtgttg 60

gctcccgtat 70

<210> SEQ ID NO 89  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 89

atacgggagc caacaccacc cattctgaga cccccgcgc atgtattggt cttgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 90  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 90

atccgtcaca cctgctctca agaccaatac atgcgcgggg ggtctcagaa tgggtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 91  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence

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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 91  
  
 atacgggagc caacaccatg ctagtgcccc cacagacgca cactaaagta ttccagagca 60  
  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 92  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 92  
  
 atccgtcaca cctgctctgg aatactttag tgtgcgtctg tgggggcact agcatggtgt 60  
  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 93  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 93  
  
 atacgggagc caacaccagg ccgtgcgcgc tcattttgag aaccactgcc cccagagcag 60  
  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 94  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 94  
  
 atccgtcaca cctgctctgg gggcagtggt tctcaaaatg agcgcgcacg gcctggtgtt 60  
  
 ggctcccgt a t 71  
  
 <210> SEQ ID NO 95  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 95  
  
 atacgggagc caacaccagt actaccacg ggcttattac ccctcatcc ttgcagagca 60  
  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 96  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 96  
  
 atccgtcaca cctgctctgc aaggatgagg gggaataag cccgtgggta gtactggtgt 60  
  
 tggctcccgt at 72

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<210> SEQ ID NO 97  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 97

ataccgggagc caacaccatt atgtaacaa aggcataccg caagctctaa ctgtagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 98  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 98

atccgtcaca cctgctctac agttagagct tgccgatgc ctttgtaac ataatggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 99  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 99

ataccgggagc caacaccacc tcaagatagc cgttcatccg actgtcgcca ttgtagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 100  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 100

atccgtcaca cctgctctac aatggcgaca gtcggatgaa cggctatctt gaggtggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 101  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 101

ataccgggagc caacaccaca taatggacaa tcccactggg cacgttctat aaccagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 102  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 102



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atccgtcaca cctgctctgg ttatagaacg tgcccagtgg gattgtccat tatgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 103

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 103

atacgggagc caacaccaag cccgagcccg ccgttatatc ccatcgagtt cccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 104

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 104

atccgtcaca cctgctctgg ggaactcgat gggatataac ggccgggctcg ggcttggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 105

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 105

atacgggagc caacaccatc ccaccgaata tccgctttcc tcgtctcct ttcagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 106

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 106

atccgtcaca cctgctctga aaggaggacg aggaaagcgg atattcgggtg ggatggtgtt 60

ggctccccgt a t 71

<210> SEQ ID NO 107

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 107

atacgggagc caacaccaat agatggataa gggggaaact gccattcgggt tagtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 108

<211> LENGTH: 72

<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 108  
  
 atccgtcaca cctgctctac taaccgaatg gcagtttccc ccttatccat ctattggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 109  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 109  
  
 atacgggagc caacaccaca tctacgccca agcctctatg tacaagtagc aacaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 110  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 110  
  
 atccgtcaca cctgctcttg ttgctacttg tacatagagg cttgggcgta gatgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 111  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 111  
  
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 gtgtgacgga t 71  
  
 <210> SEQ ID NO 112  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 112  
  
 atccgtcaca cctgctctcg tacaacaaac tcgataaggt tcacagtgga gattggtgtt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 113  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 113  
  
 atacgggagc caacaccata ggctataccg cgtttagactt tctgagtcgt cctcagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 114  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 114  
  
 atccgtcaca cctgctctga ggacgactca gaaagtctaa cgcggtatag cctatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 115  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 115  
  
 atacgggagc caacaccagc acgccctttt agtgtccaac tgaatcttca cctaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 116  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 116  
  
 atccgtcaca cctgctctta ggtgaagatt cagttggaca ctaaagggc gtgctggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 117  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 117  
  
 atacgggagc caacaccatg cttttggagt atttcgctc caagctactc ccctagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 118  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 118  
  
 atccgtcaca cctgctctag gggagtagct tggaggcgaa atactcctaaa agcatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 119  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 119

atacgggagc caacaccatt gatcctgccg gttcgccct tgttcccacc ttttagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 120

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 120

atccgtcaca cctgctctaa aagggtggaa caaggggaga accggcagga tcaatggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 121

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 121

atacgggagc caacaccacc actgtttagg cacaacttgc tttcttagcc ccgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 122

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 122

atccgtcaca cctgctctgc ggggctaaga aagcaagttg tgcctaaaca gtggtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 123

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 123

atacgggagc caacaccacg cgtttattat gttcccctatg attgccacgg ctacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 124

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 124

atccgtcaca cctgctctgt agccgtggca atcatgggga acataataaa cgcgtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 125

<211> LENGTH: 72

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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 125  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 126  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 126  
  
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 tggctcccgt at 72  
  
 <210> SEQ ID NO 127  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 127  
  
 atacgggagc caacaccacc taagtaatgc caaaaacaac tcgggtacgc aatgagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 128  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 128  
  
 atccgtcaca cctgctctca ttgcgtaccc gagttgtttt tggcattact taggtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 129  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 129  
  
 atacgggagc caacaccact tctctgtgac cagtatacgt cccatttccc tattagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 130  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 130  
  
 atccgtcaca cctgctctaa tagggaaatg ggacgtatac tggtcacaga gaagtggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 131  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 131

atacgggagc caacaccagg atacgttccg tgcattgatg tgctgcccc tgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 132  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 132

atccgtcaca cctgctctaa catggggcag cacatccatg cacggaacgt atcctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 133  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 133

atacgggagc caacaccacc attttcgttt ttcttgagta ttctgacctt agtgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 134  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 134

atccgtcaca cctgctctca ctaaggctca aatactcaag aaaaacgaaa atggtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 135  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 135

atacgggagc caacaccatt cgaaacccat aatcttttcc tcaactctgcg tattagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 136  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 136

atccgtcaca cctgctctaa tacgcagagt gaggaaaaga ttatgggttt cgaatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 137

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 137

atacgggagc caacaccacg catggggctc tccctattac gcaatccggt gtagagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 138

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 138

atccgtcaca cctgctctct acaacggatt gcgtaatagg gagagcccca tgcgtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 139

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 139

atacgggagc caacaccatc ttgtcctcgg tccgtctttg cattctggtc taaaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 140

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 140

atccgtcaca cctgctcttt tagaccagaa tgcaaagacg gaccgaggac aagatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 141

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 141

atacgggagc caacaccacc gctgtaagtg cttgggtoga ccgcgcccgc tgccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 142

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 142  
  
 atccgtcaca cctgctctgg cagcggggcgc ggtcgaccca agcacttaca gcggtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 143  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 143  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 144  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 144  
  
 atccgtcaca cctgctctgg gagcacatgg ggaggcagac tcacctgctt cacctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 145  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 145  
  
 atacgggagc caacaccaat agatggataa gggggaaact gccattcgtt tagtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 146  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 146  
  
 atccgtcaca cctgctctac taaccgaatg gcagtttccc cttatccat ctattggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 147  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 147  
  
 atacgggagc caacaccact tccgggctat accggggctc gcgcaattct gaccagagca 60



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ggtgtgacgg at 72

<210> SEQ ID NO 148  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 148

atccgtcaca cctgctctgg tcagaattgc gcgagccccg gtatagcccc gaagtgggtg 60

tggtccccgt at 72

<210> SEQ ID NO 149  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 149

atacgggagc caacaccaat agatggataa gggggaaact gccattcggg tagtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 150  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 150

atccgtcaca cctgctctac taaccgaatg gcagtttccc ccttatccat ctattgggtg 60

tggtccccgt at 72

<210> SEQ ID NO 151  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 151

atacgggagc caacaccagt cttttattca tcatgatcgc tgacctacac cccaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 152  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 152

atccgtcaca cctgctcttg ggggtgtaggt cagcgatcat gatgaataaa agactgggtg 60

tggtccccgt at 72

<210> SEQ ID NO 153  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 153

atacgggagc caacaccact tcaaaagtca gatacaaaga cagagattgg acttagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 154

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 154

atccgtcaca cctgctctaa gtccaatctc tgtctttgta tctgactttt gaagtgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 155

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 155

atacgggagc caacaccatt atgtaaaca aggcatacgg caagctctaa ctgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 156

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 156

atccgtcaca cctgctctac agttagagct tgccgatgc ctttgtaac ataatgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 157

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 157

atacgggagc caacaccata atattacaat gccagaatct acacataatc ctatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 158

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 158

atccgtcaca cctgctctat aggattatgt gtagattctg gcattgtaat attatgggtg 60

tggctcccgt at 72

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<210> SEQ ID NO 159  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 159

atacgggagc caacaccatt atgtaacaa aggcatacgg caagctctaa ctgtagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 160  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 160

atccgtcaca cctgctctac agttagagct tgccgtatgc ctttgtaac ataatggtgt 60  
tggtcccgt at 72

<210> SEQ ID NO 161  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 161

atacgggagc caacaccact tgacgccgtg gcaacacgct gacgagctt acccagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 162  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 162

atccgtcaca cctgctctgg gtaaagctcg tcagcgtgtt gccacggcgt caagtgggtgt 60  
tggtcccgt at 72

<210> SEQ ID NO 163  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 163

atacgggagc caacaccagc caactcacta ttacttagta accctaacga tggcagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 164  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 164

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atccgtcaca cctgctctgc catcgtagg gttactaagt aatagtgagt tggctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 165  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 165

atacgggagc caacaccata cgatccaatg atggaccctg gcggactgat ttacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 166  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 166

atccgtcaca cctgctctgt aaatcagtcc gcacgggtcc atcattggat cgtatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 167  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 167

atacgggagc caacaccatt ccactctccat gtagctaaag tcgatactcc atccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 168  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 168

atccgtcaca cctgctctgg atggagtatc gactttagct acatggagat ggaatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 169  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 169

atacgggagc caacaccaca cagaggacgg ttcgtcagat gccgtttgcc acgaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 170  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence

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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 170  
  
 atccgtcaca cctgctcttc gtggcaaacg gcatctgacg aaccgtcctc tgtgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 171  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 171  
  
 atacgggagc caacaccaa aaaggtcttc tcccacgatg tgtccaatgc atccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 172  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 172  
  
 atccgtcaca cctgctctgg atgcattgga cacatcgtgg gagaagacct tttttggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 173  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 173  
  
 atacgggagc caacaccacc gcctcgaccg ctcggggccc ttaccctagc ttcagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 174  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 174  
  
 atccgtcaca cctgctctga agctagggta agggccccga gcggtcgagg cgggtggtgt 60  
 ggctcccgt t 71  
  
 <210> SEQ ID NO 175  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 175  
  
 atacgggagc caacaccacc acaaccgtag ggaccgcct ggtcccacac ctagagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 176  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 176

atccgtcaca cctgctctct aggttgggga ccaggcgggt ccctacggtt gtggtggtgt 60  
 tggtccccgt at 72

<210> SEQ ID NO 177  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 177

atacgggagc caacaccacc tcggatgggt atgatatagt ttacaatcat gaagagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 178  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 178

atccgtcaca cctgctctct tcatgattgt aaactatatac ataaccatcc gaggtggtgt 60  
 tggtccccgt at 72

<210> SEQ ID NO 179  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 179

atacgggagc caacaccaca tagccaacct cagccacacc gactacgctt ggccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 180  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 180

atccgtcaca cctgctctgg ccaagcgtag tcggtgtggc tgaggttggc tatgtggtgt 60  
 tggtccccgt at 72

<210> SEQ ID NO 181  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 181

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atacgggagc caacaccatt tatctaattg caactagggg tagtgaaaac taccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 182  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 182

atccgtcaca cctgctctcc tcttaggaat gtagtcgggc ggataaagtg acaatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 183  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 183

atacgggagc caacaccatt gtcactttat ccgcccgaact acattcctag gaggagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 184  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 184

atccgtcaca cctgctctcc tcttaggaat gtagtcgggc ggataaagtg acaatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 185  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 185

atacgggagc caacaccacc ttcgacgcca acgacgaacg gctttgaaag gctaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 186  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 186

atccgtcaca cctgctctta gcctttcaaa gccgttcgtc gttggcgtcg aaggtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 187  
 <211> LENGTH: 72  
 <212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 187  
  
 atacgggagc caacaccaat ggaagccgta ccttcacacc cgttatttaa aaacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 188  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 188  
  
 atccgtcaca cctgctctgt ttttaaataa cgggtgtgaa ggtacggctt ccattggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 189  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 189  
  
 atacgggagc caacaccacg ctggccggga ggcccgtcca agccattacc gtcaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 190  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 190  
  
 atccgtcaca cctgctcttg acggtaatgg cttggacggg cctcccggcc agcgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 191  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 191  
  
 atacgggagc caacaccaca taccaccgca cgcctattcc atgtgacgaa tctaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 192  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 192  
  
 atccgtcaca cctgctctta gattcgtcac atggaatagg cgtgcggtga tatgtggtgt 60  
 tggctcccgt at 72



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<210> SEQ ID NO 193  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 193

atacgggagc caacaccacg gcgggcgggg catctcgtgg gggacgaagg cgcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 194  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 194

atccgtcaca cctgctcttg cgcttcgtc cccacgaga tgccccgcc gccgtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 195  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 195

atacgggagc caacaccatc ctctgcgac gtctggagaa cagcctctac tttaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 196  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 196

atccgtcaca cctgctctta aagtagaggc tgttctccag acgtcgcagg aggatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 197  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 197

atacgggagc caacacaaa accgcacta catctcctct gcccccttct gataagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 198  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 198

atccgtcaca cctgctctta tcagaagggg gcagaggaga tgtagtgcg gttttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 199

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 199

atacgggagc caacaccagt ggtcttgttt tggatgttta gtgatgcggg ttctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 200

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 200

atccgtcaca cctgctctag aaccgcgcatc actaaacatc caaaacaaga ccaactggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 201

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 201

atacgggagc caacaccatc tttcgtgata gctattaagg cctattcgta tcgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 202

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 202

atccgtcaca cctgctctac gatacgaata ggccttaata gctatcacga aagatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 203

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 203

atacgggagc caacaccata ctgaagccat acgtctgtcc aaccgtcata acttagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 204

<211> LENGTH: 72

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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 204  
  
 atccgtcaca cctgctctaa gttatgacgg ttggacagac gtatggcttc agtatgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 205  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 205  
  
 atacgggagc caacaccacc ctaaattcca gagtgtacaa gagaacgaac taccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 206  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 206  
  
 atccgtcaca cctgctctgg tagttcgttc tctgtacac tctggaattt aggtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 207  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 207  
  
 atacgggagc caacaccact actcatatac cttatactat aaacaatctg cgcgagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 208  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 208  
  
 atccgtcaca cctgctctcg cgcagattgt ttatagtata aggtatatga gtagtgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 209  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 209  
  
 atacgggagc caacaccaca ttcgtactag ccccggttgc ccgtcgaccg gacaagagca 60

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 ggtgtgacgg at 72

<210> SEQ ID NO 210  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 210

atacgggagc caacaccagg agggcgcgcc tatttcgcca attcgccgc agcgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 211  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 211

atccgtcaca cctgctcttg tccggctcgac gggcaaccgg ggctagtacg aatgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 212  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 212

atccgtcaca cctgctctcg ctgcccagca attggcgaaa taggcgccc ctccctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 213  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 213

atacgggagc caacaccaca cattatcggc aactggcaag gctaaggtac tggtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 214  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 214

atccgtcaca cctgctctac cagtacctta gccttgccag ttgccgataa tgtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 215  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 215  
 atacgggagc caacaccact ggcgacccac tcccctggta cgtcaccaca gcctagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 216  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 216  
 atccgtcaca cctgctctag gctgtggtga cgtaccaggg gagtgggtcg ccagtgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 217  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 217  
 atacgggagc caacaccaag acaaccgagc taataggcat ttcaacacct gtccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 218  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 218  
 atccgtcaca cctgctctgg acaggtgttg aatgcctat tagctcgggt gtcttggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 219  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 219  
 atacgggagc caacaccaga agaccatgtg aagtaaagac ttcaattatc agtcagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 220  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 220  
 atccgtcaca cctgctctga ctgataattg aagtctttac ttcacatggt cttctggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 221

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 221  
  
 atacgggagc caacaccaca ataaatccgt gcgctgacg cgtttcatac agtcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 222  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 222  
  
 atccgtcaca cctgctctga ctgtatgaaa cgcgtcacgc gcacggattt attgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 223  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 223  
  
 atacgggagc caacaccact attggctata cattcgttgt gagaaacgca ccgcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 224  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 224  
  
 atccgtcaca cctgctctgc ggtgcgtttc tcacaacgaa tgtatagcca atagtgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 225  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 225  
  
 atacgggagc caacaccatg gggaccaact gtccggagag agtcctgtcg agggagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 226  
 <211> LENGTH: 68  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 226  
  
 atacgggagc caacaccaca tagacacaag atatatcata tattgctcgc agagcaggtg 60

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tgacggat 68

<210> SEQ ID NO 227  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 227

atccgtcaca cctgctctcc ctcgacagga ctctctccgg acagttggtc cccatgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 228  
 <211> LENGTH: 68  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 228

atccgtcaca cctgctctgc gagcaatata tgatatatct tgtgtctatg tgggtgtggc 60

tcccgtat 68

<210> SEQ ID NO 229  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 229

atacgggagc caacaccatt gtagctgaca actgttttac atgaacactt cagagcaggt 60

gtgacggat 69

<210> SEQ ID NO 230  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 230

atccgtcaca cctgctctga agtgttcatg taaaacagtt gtcagctaca atgggtgttg 60

ctcccgtat 69

<210> SEQ ID NO 231  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 231

atacgggagc caacaccagg gtgccagcag attataattg aacaaccag cgatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 232  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 232

atccgtcaca cctgctctat cgctggtttg ttcaattata atctgctggc accctgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 233

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 233

atacgggagc caacaccagc acatagaaaa aaaatacaac cacatcgatt gaccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 234

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 234

atccgtcaca cctgctctgg tcaatcgatg tggttgatt tttttctat gtgctgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 235

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 235

atacgggagc caacaccaac caggtattgt caaaaatgga aacaaatgag gaatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 236

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 236

atccgtcaca cctgctctat tcctcatttg ttccatttt ggacaatacc tggttggtg 60

tggtcccgt at 72

<210> SEQ ID NO 237

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 237

atacgggagc caacaccaca cacaaaagga attgtatact cgcataaggc cgccagagca 60

ggtgtgacgg at 72



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<210> SEQ ID NO 238  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 238

atccgtcaca cctgctctgg cggccttatg cgagtataca attccttttg tgtgtggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 239  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 239

atacgggagc caacaccaga aacgtggact gtgtaggcaa acctattatt ttctagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 240  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 240

atccgtcaca cctgctctag aaaataatag gttgcctac acagtccacg tttctggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 241  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 241

atacgggagc caacaccagc gcaattgatg actaccctaa gaaatctatt ggccagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 242  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 242

atccgtcaca cctgctctgg ccaatagatt tcttaggta gtcataatt gcgctggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 243  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 243

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 atacgggagc caacaccacg gccgaggtcc actacccta tggctggccc ttccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 244  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 244

atacgggagc caacaccagc ctacgggtgg atgatccgcg gtgttcgagt gttagagcag 60

gtgtgacgg 69

<210> SEQ ID NO 245  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 245

atccgtcaca cctgctctgg aagggccagc cataggggta gtggacctcg gccgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 246  
 <211> LENGTH: 69  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 246

ccgtcacacc tgctctaaca ctggaacacc gcggatcacc caccgtagg ctggtggtgg 60

ctcccgtat 69

<210> SEQ ID NO 247  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 247

atacgggagc caacaccatg cagtatccac cttctctttt ttctcactcc actgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 248  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 248

atccgtcaca cctgctctca gtggagtgg aaaaagaga aggtggatac tgcattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 249  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence

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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 249  
  
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 tggctcccgt at 72  
  
 <210> SEQ ID NO 250  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 250  
  
 atacgggagc caacaccacc aaccatagta gatatcgaga agttgtccca ttogagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 251  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 251  
  
 atacgggagc caacaccagg gatgggtaaa gaaagtcgcg agacgatgat gccagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 252  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 252  
  
 atccgtcaca cctgctctgg catcatcgtc tcgcgacttt ctttaccat ccctggtgtt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 253  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 253  
  
 atacgggagc caacaccacg acatccgttc tgaacacacg atagtgatga ttgtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 254  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 254  
  
 atccgtcaca cctgctctac aatcatcact atcgtgtgtt cagaacggat gtcgtggtgt 60  
 tggctcccgt at 72

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<210> SEQ ID NO 255  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 255  
  
 atacgggagc caacaccacg gtattgtaaa gaaatgaaat cagtaatata ttccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 256  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 256  
  
 atccgtcaca cctgctctgg aatatattac tgatttcatt tctttacaat accgtgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 257  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 257  
  
 atacgggagc caacaccata caaaaatccg aagttaagac agctcacgct taccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 258  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 258  
  
 atccgtcaca cctgctctga taagcgtgag ctgtcttaac ttcggatttt tgtatgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 259  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 259  
  
 atacgggagc caacaccata catggcagct cctacagatc accactctaa gagtagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 260  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 260

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atccgtcaca cctgctctac tcttagagtg gtgatctgta ggagctgcca tgtatggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 261

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 261

atacgggagc caacaccaca actcaccagg aactcggcc gcccggtccc caatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 262

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 262

atccgtcaca cctgctctat tggggaccgg gcggccgagt gtctgtgta gttgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 263

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 263

atacgggagc caacaccagt tgacaacaca tgactctaca cgatatgtca cacaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 264

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 264

atccgtcaca cctgctcttg tgtgacatat cgtgtagagt catgtgttgt caactggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 265

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 265

atacgggagc caacaccagg ctatgaagaa agaaaaatga gtaacacata acgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 266

<211> LENGTH: 72

<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 266  
  
 atccgtcaca cctgctctgc gttatgtggt actcattttt ctttcttcat agcctgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 267  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 267  
  
 atacgggagc caacaccacg cccccctca ctactgtccc gcccccgcc gtggagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 268  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 268  
  
 atccgtcaca cctgctctcc acggcggggg gcgggacagt agtgaggggg ggcgtgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 269  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 269  
  
 atacgggagc caacaccacc ggccaacgaa agacctgct cactagacac ccctagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 270  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 270  
  
 atacgggagc caacaccacc agaaaatcaa tataacaacg tatgctggct ccgagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 271  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 271  
  
 atccgtcaca cctgctctag ggggtgtctag tgagcgaggt ctttcgttgg ccggtgggtgt 60  
 tggctcccgt at 72

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<210> SEQ ID NO 272  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 272

atccgtcaca cctgctctcg gagccagcat acgttggtat attgattttc tgggtggtgt 60  
 ggctcccgtat 71

<210> SEQ ID NO 273  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 273

atacgggagc caacaccaat agatggataa gggggaaaact gccattcggg tagtagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 274  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 274

atccgtcaca cctgctctac taaccgaatg gcagtttccc cttatccat ctattggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 275  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 275

atacgggagc caacaccaga ttgaagctca agcctaaagg tgaccaaagg tagaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 276  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 276

atccgtcaca cctgctcttc tacctttggt cacctttagg cttgagcttc aatctggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 277  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 277

atacgggagc caacaccaca ggagaggcag taaaagggtt ggctgcctgg gtagagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 278

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 278

atccgtcaca cctgctctct acccaggcag ccaacccttt tactgctct cctgtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 279

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 279

atacgggagc caacaccatt attactgagc tgtgcgccgc tacctgcta gattagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 280

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 280

atccgtcaca cctgctctaa tctaggcagg tagcggcgca cagctcagta ataatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 281

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 281

atacgggagc caacaccaat gcgggcttcc tactccaacc caggaccttc accagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 282

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 282

atccgtcaca cctgctctgg tgaaggctct gggttgagat aggaagcccg cattggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 283

<211> LENGTH: 72



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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 283  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 284  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 284  
  
 atccgtcaca cctgctctta gcagaaaca caagcccggc catagacagc cgcgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 285  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 285  
  
 atacgggagc caacaccaca ggagaggcag taaaagggtt ggctgcctgg gtagagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 286  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 286  
  
 atccgtcaca cctgctctct acccaggcag ccaacccttt tactgcctct cctgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 287  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 287  
  
 atacgggagc caacaccacg aggattaca ctttatgcgt gcaaccagac accaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 288  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 288  
  
 atccgtcaca cctgctcttg gtgtctggtt gcacgcataa agttgtaatc ctgctggtgt 60

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tggctcccgt at 72  
  
 <210> SEQ ID NO 289  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 289  
 atacgggagc caacaccacc tacagatccg cgaaccagcc gactactcgt ccacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 290  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 290  
 atccgtcaca cctgctctgt ggacgagtag tcggctgggt cgcggatctg taggtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 291  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 291  
 atacgggagc caacaccaca gctgatattg gatgggtccgg cagagcaggt gtgacggat 59  
  
 <210> SEQ ID NO 292  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 292  
 atccgtcaca cctgctctgc cggaccatcc aatatcagct gtggtgttgg ctcccgtat 59  
  
 <210> SEQ ID NO 293  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 293  
 atacgggagc caacaccaca ggagaggcag taaaagggtt ggctgcctgg gtagagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 294  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 294  
 atccgtcaca cctgctctct acccaggcag ccaacccttt tactgcctct cctgtggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 295  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 295

atacgggagc caacaccaag ctctcacgtg acacagtgt cgcgctcaa aatgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 296  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 296

atccgtcaca cctgctctca ttttgacggc ggagcactgt gtcacgtgag agcttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 297  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 297

atacgggagc caacaccatc ccgcgcccac tgcttgacac ctcttagccc ccgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 298  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 298

atccgtcaca cctgctctgc gggggctaag aggtgacaag cagtgggagc gggatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 299  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 299

atacgggagc caacaccaac ccaataaact tattggacct acgctttgat gattagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 300  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 300

atccgtcaca cctgctctaa tcatcaaagc gtaggtccaa taagtttatt gggttggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 301

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 301

atacgggagc caacaccaca ctgcatccct ctaccgtact tacattcctg acatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 302

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 302

atccgtcaca cctgctctat gtcaggaatg taagtacggt agagggatgc agtgtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 303

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 303

atacgggagc caacaccatg tcaggacctc catcgcccgg gcccgccgcc gctgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 304

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 304

atccgtcaca cctgctctca gcgggggggg gccggggcga tggaggtcct gacatggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 305

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 305

atacgggagc caacaccacc ccgtcgccaa gcacttggtt gggctctaac ggccagagca 60

ggtgtgacgg at 72

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<210> SEQ ID NO 306  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 306  
  
 atccgtcaca cctgctctgg ccgtagagc ccagccaagt gcttggcgac ggggtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 307  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 307  
  
 atacgggagc caacaccaca gctgatatcg gatgggccg cagagcaggt gtgacggat 59

<210> SEQ ID NO 308  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 308  
  
 atccgtcaca cctgctctgc cggaccatcc gatatcagct gtggtgttgg ctcccgtat 59

<210> SEQ ID NO 309  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 309  
  
 atacgggagc caacaccacc cgtggccttc accagccag gggccccgtc tctgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 310  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 310  
  
 atccgtcaca cctgctctca gagacggggc ccctggctgg gtgaaggcca cgggtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 311  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 311  
  
 atacgggagc caacaccatg tctcttagga taaaagcca aactgagccc gtgcagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 312  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 312

atccgtcaca cctgctctgc acgggctcag ttggctttg taccctaaga gacatgggtg 60  
 tggtcccgt at 72

<210> SEQ ID NO 313  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 313

atacgggagc caacaccagt cacagtgtct ggccagaatg ccaaggaat cgtagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 314  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 314

atccgtcaca cctgctctaa cgattccctt ggcattctgg ccagacactg tgactgggtg 60  
 tggtcccgt at 72

<210> SEQ ID NO 315  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 315

atacgggagc caacaccaac actaatacta atgccattat gcgtgatcta ttagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 316  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 316

atccgtcaca cctgctctaa atagatcacg cataatggca ttagtattag tgttgggtg 60  
 ggctcccgt t 71

<210> SEQ ID NO 317  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 317

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atacgggagc caacaccata acaaataacc accctcaatg ctagatagtg gcttagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 318  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 318

atccgtcaca cctgctctaa gccactatct agcattgagg gtggttattt gttatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 319  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 319

atacgggagc caacaccagc acttaccac ctataaggaa tattctagat cggaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 320  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 320

atccgtcaca cctgctcttc cgatctagaa tattccttat aggtgggtaa gtgctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 321  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 321

atacgggagc caacaccatc gggcattaac atggaatc cttccccagc gtctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 322  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 322

atccgtcaca cctgctctag acgctgggga aggatattcc atgttaatgc ccgatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 323  
 <211> LENGTH: 72  
 <212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 323  
  
 atacgggagc caacaccagt ccacacttga ccacaaaaca taatcccata ttgtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 324  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 324  
  
 atccgtcaca cctgctctac aatatgggat tatgttttgt ggtcaagtgt ggactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 325  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 325  
  
 atacgggagc caacaccata agatagtaaa gctagagaca tctcagagca ggagagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 326  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 326  
  
 atccgtcaca cctgctctct cctgctctga gatgtctcta gctttactat cttatggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 327  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 327  
  
 atacgggagc caacaccaa ggcaacagtc tcttcctact attaaaacga aacgagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 328  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 328  
  
 atccgtcaca cctgctctcg tttcgtttta atagtaggaa gagactgttg cctttggtgt 60  
 tggctcccgt at 72



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<210> SEQ ID NO 329  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 329  
  
 atacgggagc caacaccagc gtcataatat tctgttggtg gccctattgg acggagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 330  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 330  
  
 atccgtcaca cctgctctcc gtccaatagg gccacaacag gaatattatg acgctgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 331  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 331  
  
 atacgggagc caacaccaa tatctaacca tacatattata caagtgggtc atagagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 332  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 332  
  
 atccgtcaca cctgctctct atgaaccact tgtataaatg tatgggtaga tatttgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 333  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 333  
  
 atacgggagc caacaccaca agttcaacga gttgataaca caacatgacc gccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 334  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 334

atccgtcaca cctgctctgg gcggtcatgt tgtgttatca actcgttgaa cttgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 335

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 335

atacgggagc caacaccact aataaaaatg aaaaacaccc ctcaacaccc atgagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 336

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 336

atccgtcaca cctgctctca tgggtggtga ggggtgtttt tcatttttat tagtggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 337

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 337

atacgggagc caacaccaca ttgagcgtaa gcaccacgcc ttctaggtcg agctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 338

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 338

atccgtcaca cctgctctag ctcgacctag aaggcgtggt gcttacgctc aatgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 339

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 339

atacgggagc caacaccata gtcggttctga catgtacttt tgaggaaatg gtgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 340

<211> LENGTH: 73

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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 340  
  
 ratccgtcac acctgctctg caccatttcc tcaaaagtac atgtcagaac gactatgggtg 60  
 ttggctcccg tat 73  
  
 <210> SEQ ID NO 341  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 341  
  
 ataccgggagc caacaccatt actcgctctg tatgcgcctc ccaccctctg atagagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 342  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 342  
  
 atccgtcaca cctgctctct atcagagggt gggaggcgca tacagagcga gtaatgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 343  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 343  
  
 ataccgggagc caacaccaga gtcggctaca gaggtctgat gttaaagcga tggtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 344  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 344  
  
 atccgtcaca cctgctctac catcgcttta acatcagacc tctgtagccg actctgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 345  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 345  
  
 ataccgggagc caacaccaca ccattctggc ccctcccct tcaccgatcc tctcagagca 60

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 ggtgtgacgg at 72

<210> SEQ ID NO 346  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 346

atccgtcaca cctgctctga gaggatcggg gaaggggagg gggccagaat ggtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 347  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 347

atacgggagc caacaccagc actgcagtta acatctacga agaggcttta atgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 348  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 348

atccgtcaca cctgctctgc attaaagcct cctcgtaa at gttactgca gtgctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 349  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 349

atacgggagc caacaccaac ccggcgttat atcacctcat ggagaaaagt gcgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 350  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 350

atccgtcaca cctgctctac gcaacttttct ccatgagggtg atataacgcc gggttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 351  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 351

atacggggagc caacaccagc acaacttaag tgcaagcaaa ttcggattaa ccaaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 352

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 352

atccgtcaca cctgctcttt ggtaatccg aatttgcttg cacttaagtt gtgctggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 353

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 353

atacggggagc caacaccagc actacattgt gttcaagcgc cgaagacgct atcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 354

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 354

atccgtcaca cctgctcttg atagcgtctt cggcgttga acacaatgta gtcgtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 355

<211> LENGTH: 70

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 355

atacggggagc caacaccagc ataccagcaa cggaagctgc ccaaagaatt tcagagcagg 60  
 tgtgacggat 70

<210> SEQ ID NO 356

<211> LENGTH: 70

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 356

atccgtcaca cctgctctga aattctttgg gcagcttccg ttgctggtat gctggtggtg 60  
 gctcccgtat 70

<210> SEQ ID NO 357

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<211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 357  
  
 atacgggagc caacaccaat gctaaatacc gatgcttttc aatgtgatgg tcaagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 358  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 358  
  
 atccgtcaca cctgctcttg accatcacat tgaaaagcat cggtatttag cattggtggt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 359  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 359  
  
 atacgggagc caacaccatc cgggccatgg tagagtgtta taatcgaaca aaagagcagg 60  
 tgtgacggat 70  
  
 <210> SEQ ID NO 360  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 360  
  
 atccgtcaca cctgctcttt tgttcgatta taactactta ccatggcccg gatggtggtg 60  
 gctcccgat 70  
  
 <210> SEQ ID NO 361  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 361  
  
 atacgggagc caacaccaag tccaagccaa acaagagcat aacaccaa atctggagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 362  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 362  
  
 atccgtcaca cctgctctcc agatttggtg ttatgctctt gtttgcttg gacttggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 363  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 363

atacgggagc caacaccaat gctaaatacc gatgcttttc aatgtgatgg tcaagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 364  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 364

atccgtcaca cctgctcttg accatcacat tgaaaagcat cggtatttag cattggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 365  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 365

atacgggagc caacaccaca tagctactac agaactcagg gctaaagtct tatagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 366  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 366

atccgtcaca cctgctctat aagacttttag cctgagttc tgtagtagct atgtggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 367  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 367

atacgggagc caacaccagc ataccagcaa cggaagctgc ccaagaatt tcagagcagg 60

tgtgacggat 70

<210> SEQ ID NO 368  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 368

atccgtcaca cctgctctga aattctttgg gcagcttccg ttgctggtat gctggtggtg 60

gctcccgtat 70

<210> SEQ ID NO 369

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 369

ataccgggagc caacaccaga tcgatatatg acaccaggta caccacagac ttgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 370

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 370

atccgtcaca cctgctctgc aagtctgtgg tgtacctggt gtcatatatc gatctggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 371

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 371

ataccgggagc caacaccatc tactcgaaca tcttaaaagc agtctaagca aactagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 372

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 372

atccgtcaca cctgctctag tttgcttaga ctgcttttaa gatgttcgag tagatggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 373

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 373

ataccgggagc caacaccata gatcttttac gaacaccgcc gaagattatc atttagagca 60

ggtgtgacgg at 72



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<210> SEQ ID NO 374  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 374

atccgtcaca cctgctctaa atgataatct tcggcgggtg tcgtaaaaga tctatgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 375  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 375

atacgggagc caacaccaa tgatgaatag gcaacttgcg gtgccacgat cttgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 376  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 376

atccgtcaca cctgctctca agatcgtggc accgcaagtt gcctattcat catttgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 377  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 377

atacgggagc caacaccatc ggccgaatag atataattca caaagagtgt ccccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 378  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 378

atccgtcaca cctgctctgg ggacactctt tgtgaattat atctattcgg cggatgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 379  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 379

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 atacgggagc caacaccaga aatgaatac ttccaagct tgtcaagcaa gtaagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 380  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 380

atccgtcaca cctgctctta cttgcttgac aagcttggga agtattcatt ttctggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 381  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 381

atacgggagc caacaccaa caggctgagt gtactgctac cttgcagtat caagagcagg 60

tgtgacggat 70

<210> SEQ ID NO 382  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 382

atccgtcaca cctgctcttg atactgcaag gtagcagtac actcagcctg tttggtgttg 60

gctcccgtat 70

<210> SEQ ID NO 383  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 383

atacgggagc caacaccaga tttccagca aatccagtcc ctatatgtgc ttgaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 384  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 384

atccgtcaca cctgctcttc aagcacatat aggactgga ttgctggaa aatctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 385  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence

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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 385  
  
 atacgggagc caacaccaac aaccaccagt caagacccaa cgcgtggcga ggaaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 386  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 386  
  
 atccgtcaca cctgctcttt cctcgccacg cgttgggtct tgactggtg ttggtggtg 60  
 tggtcccgt at 72  
  
 <210> SEQ ID NO 387  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 387  
  
 atacgggagc caacaccagg gatatgctga atatgcattg tcacgctgaa gtcagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 388  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 388  
  
 atccgtcaca cctgctctga cttcagcgtg acaatgcata ttcagcatat ccctggtggt 60  
 ggctcccgt a t 71  
  
 <210> SEQ ID NO 389  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 389  
  
 atacgggagc caacaccaat acaacaagtc aaaaagaaat agaaagttga acgagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 390  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 390  
  
 atccgtcaca cctgctctcg ttcaactttc tattttctttt tgacttgttg tattggtggt 60  
 ggctcccgt a t 71

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<210> SEQ ID NO 391  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 391

atacgggagc caacaccaa cagacgtttg gggcaatgat ataaagtaa tcaagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 392  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 392

atccgtcaca cctgctcttg attaacttta tatcattgcc ccaaactct gtttggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 393  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 393

atacgggagc caacaccata acggttcct taatgcgcta cccacactat acaagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 394  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 394

atccgtcaca cctgctcttg tatagtgtgg gtagcgcatt aagggaaccg ttatggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 395  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 395

atacgggagc caacaccagc gctgcctgta tggcagacct acctgacct ctttagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 396  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 396

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atccgtcaca cctgctctaa agagggtcag gtaggtctgc catacaggca gcgctgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 397

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 397

atacgggagc caacaccaag atgcgagcca atagtgtcac aataattgtc cgaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 398

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 398

atccgtcaca cctgctcttt cggacaatta ttgtgacact attggctcgc atcttgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 399

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 399

atacgggagc caacaccaag atatagactc taattgatta ccattcatag gaaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 400

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 400

atccgtcaca cctgctcttt tcctatgaat ggtaatcaat tagagtctat atcttgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 401

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 401

atacgggagc caacaccatc cagttccaat tacgcgtaga tagtcacaat ccaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 402

<211> LENGTH: 72

<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 402  
  
 atccgtcaca cctgctcttt ggattgtgac tatctacgcg taattggaac tggatggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 403  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 403  
  
 atacgggagc caacaccact tacctcccct accacacctc caactaaaac ctgaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 404  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 404  
  
 atccgtcaca cctgctcttc aggttttagt tggaggtgtg gtaggggagg taagtgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 405  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 405  
  
 atacgggagc caacaccagg atcaaaccac ttgccgtcaa ggcaatggcc cctcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 406  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 406  
  
 atccgtcaca cctgctctga ggggccattg ccttgacggc aagtggtttg atcctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 407  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 407  
  
 atacgggagc caacaccacc cgtttttgat ctaatgagga tacaatattc gtctagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 408  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 408

atccgtcaca cctgctctag acgaatattg taccctcatt agatcaaaaa cgggtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 409  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 409

atacgggagc caacaccacc cctccggacc caccctgat gccacgtgcc cctgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 410  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 410

atccgtcaca cctgctctca ggggcacgtg gcatcagggg tgggtccgga ggggtggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 411  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 411

atacgggagc caacaccaga cctgccccca gcccttagc cccggcgcgc gacgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 412  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 412

atccgtcaca cctgctctcg tcgcgcgccg gggctaagg gctggggcag ggtctggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 413  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 413

atacgggagc caacaccaca cacagagcgc catggactca gtcagatgtg atgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 414

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 414

atccgtcaca cctgctctac atcacatctg actgagtcca tggcgctctg tgtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 415

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 415

atacgggagc caacaccacg gcacgaagac gaggtgaaaa gtcagcttag tgaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 416

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 416

atccgtcaca cctgctcttt cactaagctg acttttcacc tcgtcttcgt gccgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 417

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 417

atacgggagc caacaccaca ccccatgaga tcaccattca ctgcacccc cacgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 418

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 418

atccgtcaca cctgctctcg tgggggtgcg agtgaatggt gatctcatgg ggtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 419

<211> LENGTH: 72



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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 419  
  
 atacgggagc caacaccagg ctatttgta gcgctctcta gttccacatg accaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 420  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 420  
  
 atccgtcaca cctgctcttg gtcattgtga actagagagc gctaacaaat agcctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 421  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 421  
  
 atacgggagc caacaccatg gctggtacac tcccggttcc ctgccgttga gcccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 422  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 422  
  
 atccgtcaca cctgctctgg gctcaacggc aggaaccgg gagtgtacca gccatggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 423  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 423  
  
 atacgggagc caacaccacg ggggtgggtcg aacccttgtc tgggaggtgc ttctagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 424  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 424  
  
 atccgtcaca cctgctctag aagcacctcc cagacaaggg ttcgaccac cccgtggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 425  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 425

atacgggagc caacaccaat cttactagtt tgggaaaaaa attaaatata agcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 426  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 426

atccgtcaca cctgctcttg cttatattta atttttttcc caaactagta agattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 427  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 427

atacgggagc caacaccaat tatccactga taacgaaaag atctggacag ttgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 428  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 428

atccgtcaca cctgctctac aactgtccag atcttttcgt tatcagtgga taattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 429  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 429

atacgggagc caacaccagt tgacttaggg tcaaactatg gacactcacc cgtaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 430  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 430

atccgtcaca cctgctctta cgggtgagtg tccatagttt gaccctaagt caactgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 431

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 431

atacgggagc caacaccact actagacatc gtagcccgac gtccgtggat tgggagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 432

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 432

atccgtcaca cctgctctcc caatccacgg acgtcgggct acgatgtcta gtagtgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 433

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 433

atacgggagc caacaccaga tataccgtaa cattaataga caagttaa at acccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 434

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 434

atccgtcaca cctgctctgg gtatttaact tgtctattaa tgttacgga tatctgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 435

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 435

atacgggagc caacaccaac atagtgctcg catcctatgg cgtaacgaga ctacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 436

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 436  
  
 atccgtcaca cctgctctgt agtctcgta cgccatagga tgcgagcact atgttggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 437  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 437  
  
 atacgggagc caacaccacc aacgaatact accaggccta gcacaatata caacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 438  
 <211> LENGTH: 66  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 438  
  
 atccgtcaca cctgctctgt tgtgtattgt gctaggcctg gtagtattcg ttgttggtc 60  
 ccgtat 66  
  
 <210> SEQ ID NO 439  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 439  
  
 atacgggagc caacaccatt agaaaagaca tcgctaaatg acgggcacga atgagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 440  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 440  
  
 atccgtcaca cctgctctca ttcgtgcccc tcatttagcg atgtcttttc taatggtgtt 60  
 ggetcccgtat t 71  
  
 <210> SEQ ID NO 441  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 441  
  
 atacgggagc caacaccaca aatgaataaa atttcggaaa aggcaagcag gataagagca 60

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ggtgtgacgg at 72

<210> SEQ ID NO 442  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 442

atccgtcaca cctgctctta tctgcttgc cttttccgaa atttattca tttgtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 443  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 443

atacgggagc caacaccatt atgtaacaa aggcatcagg caagctctaa ctgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 444  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 444

atccgtcaca cctgctctac agttagagct tgccgtatgc ctttgtaac ataatggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 445  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 445

atacgggagc caacaccata agaaccacca ctcccggttc gcctcccgag gtgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 446  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 446

atccgtcaca cctgctctac acctcgggag gcgaacgagg agtggtggtt cttatggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 447  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 447

atacgggagc caacaccatc atggcgatac agttatctgc attgttccat ccctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 448

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 448

atccgtcaca cctgctctag ggatggaaca atgcagataa ctgtatcgcc atgatgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 449

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 449

atacgggagc caacaccagc cctggggccag cccgtgactt tcccccgcg tccaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 450

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 450

atccgtcaca cctgctcttg gacgccgggg gaaagtcacg ggctggccca gggctgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 451

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 451

atacgggagc caacaccaa cggttcagaa ataggaaacg tttgatcgca agaagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 452

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 452

atccgtcaca cctgctcttc ttgcatcaa acgtttccta tttctgaacc gtttgggtgt 60

ggctcccgt a 71

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<210> SEQ ID NO 453  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 453

atacgggagc caacaccaga atatctaaaa taaaggaaag acaaccgcg atgcagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 454  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 454

atccgtcaca cctgctctgc atccgcggtt gtctttcctt tattttagat attctggtgt 60  
tggtccccgt at 72

<210> SEQ ID NO 455  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 455

atacgggagc caacaccacg acgggcgtaa agaaataacc aatgctaccg ccacagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 456  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 456

atccgtcaca cctgctctgt ggcggtagca ttggttattt ctttacgcc gtctggtgt 60  
tggtccccgt at 72

<210> SEQ ID NO 457  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 457

atacgggagc caacaccaac gaataagtat ttaagacaga attagacact tagaagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 458  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 458

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 atccgtcaca cctgctcttc taagtgtcta attctgtctt aaatacttat tcgttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 459  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 459

atacgggagc caacaccata tacatactcc tcgctacaac cgctgcgccg gatcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 460  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 460

atccgtcaca cctgctctga tccggcgcag cggttgtagc gaggagtatg tatatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 461  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 461

atacgggagc caacaccaat ataagcgagg aggaaggcgg cgagctataa gtcagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 462  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 462

atccgtcaca cctgctctga cttatagctc gccgccttcc tctctgctta tattggtgtt 60

ggctcccgt a t 71

<210> SEQ ID NO 463  
 <211> LENGTH: 60  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 463

catacgggag ccaacaccac aaccattgcg ttactatctt cagagcaggt gtgacggatg 60

<210> SEQ ID NO 464  
 <211> LENGTH: 60  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized



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<400> SEQUENCE: 464

catccgtcac acctgctctg aagatagtaa cgcaatgggt gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 465

<211> LENGTH: 61

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 465

catacgggag ccaacaccac ccgtatcggt cccaatgcac tcagagcagg tgtgacggat 60

g 61

<210> SEQ ID NO 466

<211> LENGTH: 61

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 466

catccgtcac acctgctctg agtgcattgg gaacgatacg ggtggtggtg gctcccgtat 60

g 61

<210> SEQ ID NO 467

<211> LENGTH: 60

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 467

catacgggag ccaacaccac gttcccatac aagtactga cagagcaggt gtgacggata 60

<210> SEQ ID NO 468

<211> LENGTH: 60

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 468

tatccgtcac acctgctctg tcagtaactt gtatgggaac gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 469

<211> LENGTH: 60

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 469

catacgggag ccaacaccac aatgtcttgc tcgtgtgtcc cagagcaggt gtgacggatg 60

<210> SEQ ID NO 470

<211> LENGTH: 60

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 470

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catccgtcac acctgctctg ggacacacga gcaagacatt gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 471  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 471

catacgggag ccaacaccac tctcagaatg ggtccaaccc cagagcaggt gtgacggatg 60

<210> SEQ ID NO 472  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 472

catccgtcac acctgctctg gggttggacc cattctgaga gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 473  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 473

catacgggag ccaacaccac gtggtgatgc ggggttctcg cagagcaggt gtgacggatg 60

<210> SEQ ID NO 474  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 474

catccgtcac acctgctctg cgagaacccc gcatcaacac gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 475  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 475

catacgggag ccaacaccac ccgcagcatc cataaacgag cagagcaggt gtgacggatg 60

<210> SEQ ID NO 476  
<211> LENGTH: 60  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 476

catccgtcac acctgctctg ctcgtttatg gatgctgagg gtggtggttg ctcccgtatg 60

<210> SEQ ID NO 477  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence

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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 477  
  
 atccgtcaca cctgctctat cgtgtcttat ttattctgct caatagctta cgcttggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 478  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 478  
  
 atacgggagc caacaccaag cgtaacgtat tgagcagaat aaataagaca cgatagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 479  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 479  
  
 atacgggagc caacaccaac ctggctatct gcatgcggtc ggtcgccttg ttggagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 480  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 480  
  
 atccgtcaca cctgctctcc aacaaggcga ccgaccgat gcagatagcc aggttggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 481  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 481  
  
 atccgtcaca cctgctcttc acgtgtagcg atgacagaat aaggattgaa agactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 482  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 482  
  
 atacgggagc caacaccagt ctttcaatcc ttattctgtc atcgctacac gtgaagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 483  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 483

atccgtcaca cctgctctga ggctcgggtat tagtccgtat aaaccgagac tgaatggtgt 60  
 tggtcccgt at 72

<210> SEQ ID NO 484  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 484

atacgggagc caacaccatt cagtctcgggt ttatacggac taatacccga cctcagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 485  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 485

atacgggagc caacaccagc gatacacgtc catcgaacaa gttaaaactt agaaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 486  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 486

atccgtcaca cctgctcttt ctaagtttta acttggttoga tggacgtgta tcgctggtgt 60  
 tggtcccgt at 72

<210> SEQ ID NO 487  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 487

atacgggagc caacaccagc ggggcatctt ccattaacc attacctcac cccaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 488  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 488

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atccgtcaca cctgctcttg gggtgaggta atgggtaat ggaagatgcc cccgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 489

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 489

atacgggagc caacaccacg cccacggcca cgcccagcga gctaccctc atcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 490

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 490

atccgtcaca cctgctcttg atgaggggta gctcgtcggg cgtggccgtg ggcgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 491

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 491

atccgtcaca cctgctctcg catctaactg ctagactatc aaaagtcgtg ttaatggtgt 60

tggttccggt at 72

<210> SEQ ID NO 492

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 492

ataccggaac caacaccatt aacacgactt ttgatagtct agacgttaga tgcgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 493

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 493

atccgtcaca cctgctcttg gggtgaggta atgggtaat ggaagatgcc cccgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 494

<211> LENGTH: 72

<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 494  
  
 atacgggagc caacaccacg ggggcatcct ccattaacct attacctcac cccaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 495  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 495  
  
 atacgggagc caacaccaca aagtttagcg ttatgcaact cccccttata ctogagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 496  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 496  
  
 atccgtcaca cctgctctcg agtataaggg ggagttgcat aacgctaaac tttgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 497  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 497  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 498  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 498  
  
 atccgtcaca cctgctctgc tatgtagtca cccgatctgcg tgagtgacaa ttactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 499  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 499  
  
 atccgtcaca cctgctctgt gtactacttg caggaatggc aataggcgga aaggtggtgt 60  
 tggctcccgt at 72

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<210> SEQ ID NO 500  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 500

ataccgggagc caacaccacc tttccgccta ttgccattcc tgcaagtagt acacagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 501  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 501

atccgtcaca cctgctctat gttgccggga agatatagtg aaaattcatg atatggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 502  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 502

ataccgggagc caacaccata tcatgaattt tcactatata ttcccggcaa catagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 503  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 503

ataccgggagc caacaccact ggtgaggcgc ctgcccgcac tggccgtccc cccgagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 504  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 504

atccgtcaca cctgctctcg gggggacggc cagtcggcgc aggcgcctca ccagtgggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 505  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 505

atccgtcaca cctgctctgg gtgagcgagt cggccccggg agcgaacggc ggcgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 506

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 506

atacgggagc caacaccacg ccgcccgttcg ctccccgggc cgactegctc acccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 507

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 507

atccgtcaca cctgctctca gggcgggcgg gcccgggcga tggaggtcct gacatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 508

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 508

atacgggagc caacaccatg tcaggacctc catcgcccgg gcccggccgc gctgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 509

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 509

atccgtcaca cctgctcttt ccatgtatat tagatactcg gggcaagggg aaactggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 510

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 510

atacgggagc caacaccagt ttccccttgc cccgagtatc taatatacat ggaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 511

<211> LENGTH: 70



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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 511  
  
 atccgtcaca cctgctctgg agcgatctaa ccctttttat caatcaattc ggtggtggtg 60  
 gctcccgtat 70  
  
 <210> SEQ ID NO 512  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 512  
  
 atacgggagc caacaccacc gaattgattg ataaaaaggg ttagatcgct ccagagcagg 60  
 tgtgacggat 70  
  
 <210> SEQ ID NO 513  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 513  
  
 atccgtcaca cctgctcttg ggacatttgt agtgctgtt catgtatcgc agcctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 514  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 514  
  
 atacgggagc caacaccagg ctgcgataca tgaacaggca ctacaaatgt cccaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 515  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 515  
  
 atacgggagc caacaccacc cactctcccc ccgctcccgc tcccccgctc cgcgagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 516  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 516  
  
 atccgtcaca cctgctctcg cggagcgggg gagcgggagc ggggggagag tgggtggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 517  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 517

atccgtcaca cctgctctac atcacatctg actgagtcca tggcgctctg tgtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 518  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 518

atacgggagc caacaccaca cacagagcgc catggactca gtcagatgtg atgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 519  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 519

atacgggagc caacaccatc ctctgcggc gtctggagaa cagcctctac tttaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 520  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 520

atccgtcaca cctgctctta aagtagaggc tgttctccag acgcccagcagg aggatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 521  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 521

atccgtcaca cctgctcttt ttggtattgt tggcggaagg cgggtggttcg tgtctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 522  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 522

atacgggagc caacaccaga cacgaaccac cgcttccgc caacaatacc aaaaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 523  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 523

atacgggagc caacaccaat agtaccgcg cggcgaaaa agctccttta atacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 524  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 524

atccgtcaca cctgctctgt attaaaggag ctttttcgcc gggcgcgta ctattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 525  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 525

atacgggagc caacaccaat agatggataa gggggaaact gccattcgg tagtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 526  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 526

atccgtcaca cctgctctac taaccgaatg gcagtttccc ccttatccat ctattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 527  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 527

atccgtcaca cctgctcttg ggtcggcgg gaccagcgg gcggcctcct ggtggtgttg 60

gctcccgtat 70

<210> SEQ ID NO 528

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<211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 528  
  
 atacgggagc caacaccacc aggaggccgc cgcgctggtc cgggccgacc caagagcagg 60  
 tgtgacggat 70  
  
 <210> SEQ ID NO 529  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 529  
  
 atccgtcaca cctgctctat gttacaaccg ccacaagtag gtttgatacc cgggtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 530  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 530  
  
 atacgggagc caacaccacc cgggtatcaa acctacttgt ggcggttgta acatagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 531  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 531  
  
 atacgggagc caacaccaca cacagagcgc atggactcag tcagatgtga tgtagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 532  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 532  
  
 atccgtcaca cctgctctac atcacatctg actgagtcca tgcgctctgt gtgtggtgtt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 533  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 533  
  
 atacgggagc caacaccatc actactttta taatttcatt cttctggcgt ccttagagca 60

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ggtgtgacgg at 72

<210> SEQ ID NO 534  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 534

atccgtcaca cctgctctag ggacgccaga agaatgaaat tataaaagta gtgatgggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 535  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 535

atccgtcaca cctgctcttg ttacaaccta gtaccggag ggggaccga ggagtgggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 536  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 536

atacgggagc caacaccact cctcgggtcc cctccgggt actaggttgt aacaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 537  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 537

atccgtcaca cctgctctgt ttcttcaact tctgccttat ccccggtcgg tacgtgggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 538  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 538

atacgggagc caacaccag taccgaccgg ggataaggca gaagttgaag aaacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 539  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 539

atacgggagc caacaccatc acggcaatgt ccgataatgt cttgcttcag cgagagcagg 60

tgtgacggat 70

<210> SEQ ID NO 540

<211> LENGTH: 70

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 540

atccgtcaca cctgctctcg ctgaagcaag acattatcgg acattgccgt gatggtggtg 60

gctcccgtat 70

<210> SEQ ID NO 541

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 541

atccgtcaca cctgctctga ggaatatgac gggcaatag tgaaccagtc aaactggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 542

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 542

atacgggagc caacaccagt ttgactgggt cactattgcc gcgtcatatt cctcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 543

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 543

atccgtcaca cctgctctgc atggccatcc agattagtct tgcagacat tcggtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 544

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 544

atacgggagc caacaccacc gaatgtgctg caagactaat ctggatggcc atgcagagca 60

ggtgtgacgg at 72

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<210> SEQ ID NO 545  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 545  
  
 atacgggagc caacaccaca cctggtaaatt ttaccacggc ttacttgctc agatagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 546  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 546  
  
 atccgtcaca cctgctctat ctgagcaagt aagccgtggt aaatttacca ggtgtggtgt 60  
 tggtcccgt at 72

<210> SEQ ID NO 547  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 547  
  
 atacgggagc caacaccagc acacggcacg ccctccgaa ccacgcccc gaaagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 548  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 548  
  
 atccgtcaca cctgctcttt cgggggcgtg gttcggaggg gcgtgccgtg tgctggtgtt 60  
 ggctcccgt a t 71

<210> SEQ ID NO 549  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 549  
  
 atacgggagc caacaccatc caatgaggcc atggaccggt aaactcggac gcgcagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 550  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 550

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 atccgtcaca cctgctctgc ggcgccgagt ttaccggctcc atggcctcat tggatgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 551  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 551

atacgggagc caacaccaca cgccacaaac cccactccgt gccgtgcccg ccccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 552  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 552

atccgtcaca cctgctctgg ggcggggcacg gcacggagtg gggtttgtgg cgtgtgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 553  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 553

atacgggagc caacaccacc tggagcccag cctgtactca tctcaccgcc gtccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 554  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 554

atccgtcaca cctgctctgg acggcgggtga gatgagtaca ggctgggctc caggtgggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 555  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 555

atacgggagc caacaccagg cgccgtacag cggctccgcta cgcacctatt gtgtagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 556  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence



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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 556  
  
 atccgtcaca cctgctctac acaataggtc ggtagcggac cgctgtacgg cgcttggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 557  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 557  
  
 atacgggagc caacaccata cgtcccacaa agcgatcggc tggatacttc gtcagagcag 60  
 gtgtgacgga t 71  
  
 <210> SEQ ID NO 558  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 558  
  
 atccgtcaca cctgctctga cgaagtatcc agccgatcgc tttgtgggac gtatgggtgt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 559  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 559  
  
 atacgggagc caacaccaca gaatgtcgat gcacagggga attcgggtgcg cccgagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 560  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 560  
  
 atccgtcaca cctgctctcg ggcgaccga attcccctgt gcatcgacat tctgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 561  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 561  
  
 atacgggagc caacaccact ctagctgaca ggtgcatagc ataccgacg cttcagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 562  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 562

atccgtcaca cctgctctga agcgtcgggt atcgtatgca cctgctcagct agagtgggtgt 60  
tggtccccgt at 72

<210> SEQ ID NO 563  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 563

atacgggagc caacaccagg tccgtcaaac gttacgtagg aggcataatca cggtagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 564  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 564

atccgtcaca cctgctctac cgtgatatgc ctctacgta acgtttgacg gacctgggtgt 60  
tggtccccgt at 72

<210> SEQ ID NO 565  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 565

atacgggagc caacaccatg catacagaggc caccactcag aaagatatgt gggcagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 566  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 566

atccgtcaca cctgctctgc ccacatatct ttctgagtgg tggcctcgta tgcattgggtgt 60  
tggtccccgt at 72

<210> SEQ ID NO 567  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 567

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atacgggagc caacaccagc ccaactgccac gatatatgcg caaccgttgt ccgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 568  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 568

atccgtcaca cctgctctgc ggacaacggt tgcgcatata tcgtggcagt gggctggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 569  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 569

atacgggagc caacaccaac cgacaccccc gccagcccc atcctgcccg gtccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 570  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 570

atccgtcaca cctgctctgg accgggcagg atggggctgg gcgggggtgt cggttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 571  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 571

atacgggagc caacaccatg cggggagcaa tgtaggtctt agtaccacgt ggccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 572  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 572

atccgtcaca cctgctctgg ccacgtggta ctaagacctt cattgctccc cgcattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 573  
 <211> LENGTH: 72  
 <212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 573  
  
 atacgggagc caacaccagc cgtactaggc ccgaagtcag gtgtaggatt ggccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 574  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 574  
  
 atccgtcaca cctgctctgg ccaatcctac acctgacttc gggcctagta cggtgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 575  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 575  
  
 atacgggagc caacaccaca tcccacacac gaacagtacc ttgccacccc cgccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 576  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 576  
  
 atccgtcaca cctgctctgg cgggggtggc aaggtactgt tcgtgtgtgg gatgtgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 577  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 577  
  
 atacgggagc caacaccacc tgtccacttt ggcacgcgcg ccaactcagtc ctccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 578  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 578  
  
 atccgtcaca cctgctctgg aggactgagt ggcgcgcgtg ccaaagtgga caggtgggtgt 60  
 tggctcccgt at 72

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<210> SEQ ID NO 579  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 579

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 580  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 580

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 581  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 581

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 582  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 582

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 583  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 583

atacgggagc caacaccaca agcaggaata agcgccggtc cagagcaggt gtgacggat 59

<210> SEQ ID NO 584  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 584

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atccgtcaca cctgctctgg accggcgctt attcctgctt gtgggtgttg ctcccgtat 59

<210> SEQ ID NO 585  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 585

atacgggagc caacaccagc gaactgaaaa cgcttaaagg agaccaatga ccgaagagca 60

ggtgtgacgg a 71

<210> SEQ ID NO 586  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 586

atccgtcaca cctgctcttc ggtcattggt ctctttaag cgttttcagt tcgctggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 587  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 587

atacgggagc caacaccaag tcatgccgaa gtagggtaac gtctgaatgg tagaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 588  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 588

atccgtcaca cctgctcttc taccattcag acgttacct acttcggcat gacttggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 589  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 589

atacgggagc caacaccact cgtaatcctt taatacacct attgcaacaa tgctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 590  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 590

atccgtcaca cctgctctag cattggtgca ataggtgat taaaggatta cgagtgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 591

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 591

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 592

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 592

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 593

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 593

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 594

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 594

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactgggtg 60

tggctcccgt at 72

<210> SEQ ID NO 595

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 595

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 596

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 596  
  
 atccgtcaca cctgctcttg acacgcgtac gggtcgggac atgtcataac ggactgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 597  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 597  
  
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 ggtgtgacgg a 71  
  
 <210> SEQ ID NO 598  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 598  
  
 atccgtcaca cctgctctcg gccggaggag ctgggagggg gtgggacggt agtgtgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 599  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 599  
  
 atacgggagc caacaccaag gggcaactcg aaccggggcg ataccgagac tgacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 600  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 600  
  
 atccgtcaca cctgctctgt cagtctcggg atcgcccggg ttcgagttgc cccttgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 601  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 601  
  
 atacgggagc caacaccag atcctactca tacggagccc tggctgactc gccgagagca 60



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ggtgtgacgg at 72

<210> SEQ ID NO 602  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 602

atccgtcaca cctgctctgc gcgagtcagc cagggtccg tatgagtagg atcgtggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 603  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 603

atacgggagc caacaccagt ccggttatgac atgtccggac ccgtacgcgt gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 604  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 604

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 605  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 605

atacgggagc caacaccagt ccggttatgac atgtccggac ccgtacgcgt gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 606  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 606

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60

tggtcccgt at 72

<210> SEQ ID NO 607  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 607

atacgggagc caacaccact gaaaacttat gaaatgccgg tcgcagattt tgtcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 608

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 608

atccgtcaca cctgctctga caaaatctgc gaccggcatt tcataagttt tcagtgggtg 60

tggtcccgt at 72

<210> SEQ ID NO 609

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 609

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gtgtgacgga t 71

<210> SEQ ID NO 610

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 610

atccgtcaca cctgctctga cacgcgtacg ggtccggaca tgtcataacg gactgggtgt 60

ggctcccgt a t 71

<210> SEQ ID NO 611

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 611

atacgggagc caacaccaca ctaccgtccc acccctccc agctcctccg gccgagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 612

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 612

atccgtcaca cctgctctcg gccggaggag ctgggagggg gtgggacggt agtgtgggtg 60

tggtcccgt at 72

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<210> SEQ ID NO 613  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 613  
  
 atacgggagc caacaccagt cggttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 614  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 614  
  
 atccgtcaca cctgctcttg acacgcgtac gggccggac atgtcataac ggactgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 615  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 615  
  
 atacgggagc caacaccagt cggttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 616  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 616  
  
 atccgtcaca cctgctcttg acacgcgtac gggccggac atgtcataac ggactgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 617  
 <211> LENGTH: 58  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 617  
  
 atacgggagc caacaccacc gcaacacact atccacgacc agagcaggtg tgacggat 58

<210> SEQ ID NO 618  
 <211> LENGTH: 58  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 618  
  
 atccgtcaca cctgctctgg tcgtggatag tgtgttgagg tgggtgtggc tcccgtat 58

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<210> SEQ ID NO 619  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 619

ataccgggagc caacaccacc gcccgctcc tggcgccaca cccccgccgc agcgagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 620  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 620

atccgtcaca cctgctctcg ctgcggcggg ggtgtggcgc caggaggcgg gcggtggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 621  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 621

ataccgggagc caacaccaa tacagtgcct aataggtatg aaaattatag taatagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 622  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 622

atccgtcaca cctgctctat tactataatt ttcataccta ttaggcactg tatttggtgt 60  
tggctcccgt at 72

<210> SEQ ID NO 623  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 623

ataccgggagc caacaccaca ctaccgtccc acccctccc agctcctccg gccgagagca 60  
ggtgtgacgg at 72

<210> SEQ ID NO 624  
<211> LENGTH: 72  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 624

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atccgtcaca cctgctctcg gccggaggag ctgggagggg gtgggacggt agtgtggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 625

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 625

atacgggagc caacaccact agttatttca taggggaaat taacaaattt tgacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 626

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 626

atccgtcaca cctgctctgt caaaatttgt taatttcccc tatgaaataa ctagtgggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 627

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 627

atacgggagc caacaccacg gacaatctgg tagtagtaaa caatatataa gtatagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 628

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 628

atccgtcaca cctgctctat acttatatat tgtttactac taccagattg tccgtgggtgt 60

tggtccccgt at 72

<210> SEQ ID NO 629

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 629

atacgggagc caacaccagt actcgctgtg gaaaagcag catttcgtct atctagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 630

<211> LENGTH: 72

<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 630  
  
 atccgtcaca cctgctctag atagacgaaa tgctgctttt gccacagcga gtactgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 631  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 631  
  
 atacgggagc caacaccaaa gctccccccc tcatccctgg catctccgct aaccagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 632  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 632  
  
 atccgtcaca cctgctctgg ttagcggaga tgccagggat gaggggggga gctttgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 633  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 633  
  
 atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 634  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 634  
  
 atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactgggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 635  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 635  
  
 atacgggagc caacaccatt aacgtcgcaa tagcgctcat ctaacgtcaa gggcagagca 60  
 ggtgtgacgg at 72

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<210> SEQ ID NO 636  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 636

atccgtcaca cctgctctgc ccttgacggt agatgagcgc tattgctgacg ttaatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 637  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 637

atacgggagc caacacaaa gtgtcgtaat ttaagatgca tacgcatgcc gttaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 638  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 638

atccgtcaca cctgctctta acggcatgcg tatgcatctt aaattacgac actttggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 639  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 639

atacgggagc caacaccagt gtcttatgaa tgtagatgag ctcatgacgg aattagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 640  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 640

atccgtcaca cctgctctaa ttccgatctg agctcatcta cattcataag aactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 641  
 <211> LENGTH: 78  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 641

atacgggagc caacaccaca catcacatac cttcaagagc gatgacggcc ctttataggc	60
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agagcaggtg tgacggat	78
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<210> SEQ ID NO 642

<211> LENGTH: 78

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 642

atccgtcaca cctgctctgc ctataaaggg ccgtcatcgc tcttgaaggt atgtgatgtg	60
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tggtggtggc tcccgtat	78
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<210> SEQ ID NO 643

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 643

atacgggagc caacaccaca ctaccgtccc accccctccc agctcctccg gccgagagca	60
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ggtgtgacgg at	72
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<210> SEQ ID NO 644

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 644

atccgtcaca cctgctctcg gccggaggag ctgggagggg gtgggacggt agtgtggtgt	60
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tggtcccgt at	72
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<210> SEQ ID NO 645

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 645

atacgggagc caacaccagt ccggttatgac atgtccggac ccgtacgcgt gtcaagagca	60
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ggtgtgacgg at	72
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<210> SEQ ID NO 646

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 646

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt	60
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tggtcccgt at	72
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<210> SEQ ID NO 647

<211> LENGTH: 72



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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 647  
  
 atacgggagc caacaccaat gtggtggata gcaaaccgcc gacgattgag gattagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 648  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 648  
  
 atccgtcaca cctgctctaa tctcaatcg tcgggggttt gctatccacc acattggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 649  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 649  
  
 atacgggagc caacaccagt tgaagctagt actgcggaag catagtccat aagtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 650  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 650  
  
 atccgtcaca cctgctctac ttatggacta tgcttccgca gtactagctt caactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 651  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 651  
  
 atacgggagc caacaccagc gaaatgaagg tatgtttttg aataataatg tggcagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 652  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 652  
  
 atccgtcaca cctgctctgc cacattatta ttcaaaaaca taccttcatt tcgctggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 653  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 653

atacgggagc caacacaaa atagatcaaa accgcatgct ggagcagttt tagcaagagc 60

aggtgtgacg gat 73

<210> SEQ ID NO 654  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 654

atccgtcaca cctgctcttg ctaaaactgc tccagcatgc ggttttgatc tattttggtg 60

ttggctcccg tat 73

<210> SEQ ID NO 655  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 655

atacgggagc caacaccaat aattgctcgt tgatacttat ataaagtaca ggcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 656  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 656

atccgtcaca cctgctcttg cctgtacttt atataagtat caacgagcaa ttattggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 657  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 657

atacgggagc caacaccatc caatgaggcc atggaccggt aaactcggac gcgcagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 658  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 658

atccgtcaca cctgctctgc gcgtccgagt ttaccgggtcc atggcctcat tggatggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 659

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 659

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 660

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 660

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 661

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 661

atacgggagc caacaccaag acgataagaa taatatcgaa aatatatggt ttcagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 662

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 662

atccgtcaca cctgctctga aaacatatat ttcgatatt attcctatcg tcttggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 663

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 663

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 ggtgtgacgg at 72

<210> SEQ ID NO 664

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<211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 664  
  
 atccgtcaca cctgctctat gcaataaaca gcagtgaaca tctgaaggcg aggctggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 665  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 665  
  
 atacgggagc caacaccaat agatggataa gggggaaact gccattcggg tagtagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 666  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 666  
  
 atccgtcaca cctgctctac taaccgaatg gcagtttccc ccttatccat ctattggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 667  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 667  
  
 atacgggagc caacaccagt ccggttatgac atgtccggac ccgtacgcgt gtoaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 668  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 668  
  
 atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 669  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 669  
  
 atacgggagc caacaccagg actcgcgcaa ataattttta tacgcaccac ttcagagcag 60

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gtgtgacgga t 71

<210> SEQ ID NO 670  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 670

atccgtcaca cctgctctga agtgggtgcgt ataaaaatta tttgcgcgag tcttggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 671  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 671

atacgggagc caacaccagt ccggttatgac atgtccggac cccgtacgcg tgtcaagagc 60

aggtgtgacg gat 73

<210> SEQ ID NO 672  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 672

atccgtcaca cctgctcttg acacgcgtac ggggtccgga catgtcataa cggactgggtg 60

ttggctcccg tat 73

<210> SEQ ID NO 673  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 673

atacgggagc caacaccata aagctcgtat tgccaccccc ctggtattta atacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 674  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 674

atccgtcaca cctgctctgt attaaataac aggggggtgg caatacgagc tttatggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 675  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:

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<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 675

atacgggagc caacaccatc acggcaatgt cccgataatg tcttgcttca gcgagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 676

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 676

atccgtcaca cctgctctcg ctgaagcaag acattatcgg gacattgccg tgatggtggt 60

ggctcccgta t 71

<210> SEQ ID NO 677

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 677

atacgggagc caacaccagc agtactaacc cccttacca tatatatcac acgagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 678

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 678

atccgtcaca cctgctctcg tctgatatat atggtaaggg gggtagtac tgctggtggt 60

ggctcccgta t 71

<210> SEQ ID NO 679

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 679

atacgggagc caacaccacc ctaaattcca gactgtacaa gagaacgaac taccagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 680

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 680

atccgtcaca cctgctctgg tagttcgttc tctgtacac tctggaattt aggtggtggt 60

tggctcccgt at 72

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<210> SEQ ID NO 681  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 681  
  
 atacgggagc caacaccata gcgacttggc aaaaaattta catccattac tccagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 682  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 682  
  
 atccgtcaca cctgctctgg agtaatggat gtaaattttt tgccaagtcg ctatggtggt 60  
 ggctcccgta t 71

<210> SEQ ID NO 683  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 683  
  
 atacgggagc caacaccacg tacacaaacc aaatcgcac cttcccacc tccagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 684  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 684  
  
 atccgtcaca cctgctctgg aggggtgggaa ggtgcgtatt tggtttgtgt acgtggtggt 60  
 ggctcccgta t 71

<210> SEQ ID NO 685  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 685  
  
 atacgggagc caacaccaca tctagcacga gaccctatcc cagagcaggt gtgacggat 59

<210> SEQ ID NO 686  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 686  
  
 atccgtcaca cctgctctgg gatagggctct cgtgctagat gtgggtgttg ctcccgtat 59

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<210> SEQ ID NO 687  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 687

atacgggagc caacaccaa tcgtcaacag cctgcgcca cttatcttt tgccagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 688  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 688

atccgtcaca cctgctctgg caaaaagata agtggcgag ggctgttgac gatttgggtg 60  
 tggctcccgt at 72

<210> SEQ ID NO 689  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 689

atacgggagc caacaccaac agatggataa ggggaaaact gccattcgg ttagtagagc 60  
 aggtgtgacg gat 73

<210> SEQ ID NO 690  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 690

atccgtcaca cctgctctac taaccgaatg ggcagtttcc cccttatcca tctgttggtg 60  
 ttggtcccgt tat 73

<210> SEQ ID NO 691  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 691

atacgggagc caacaccacg cagttataac ggcaggcccc atatcgttta accagagcag 60  
 gtgtgacgga t 71

<210> SEQ ID NO 692  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 692



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atccgtcaca cctgctctgg ttaaacgata tggggcctgc cgttataact gcgtggtggt 60  
 ggctcccgta t 71

<210> SEQ ID NO 693  
 <211> LENGTH: 68  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 693

atacgggagc caacaccatg tcaggacctc catcgcccgg gcccgccgcc gctgagagca 60  
 ggtgtgac 68

<210> SEQ ID NO 694  
 <211> LENGTH: 68  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 694

gtcacacctg ctctcagcgg cggcggggccc gggcgatgga ggtcctgaca tgggtgttggc 60  
 tcccgtat 68

<210> SEQ ID NO 695  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 695

atacgggagc caacaccata acaaataacc accctcaatg ctagatagtg gcagagcagg 60  
 tgtgacggat 70

<210> SEQ ID NO 696  
 <211> LENGTH: 70  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 696

atccgtcaca cctgctctgc cactatctag cattgagggt gggtatttgt tatggtggtg 60  
 gctcccgtat 70

<210> SEQ ID NO 697  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
 <400> SEQUENCE: 697

atacggcagc caacaccaca cacatagcgc tttgtattca gccggatgtg atgtagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 698  
 <211> LENGTH: 72  
 <212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 698  
  
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 tggctgccgt aa 72  
  
 <210> SEQ ID NO 699  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 699  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 700  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 700  
  
 atccgtcaca cctgctctac atcacatctg actgagtcca tggcgctctg tgtgtggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 701  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 701  
  
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 gtgtgacgga t 71  
  
 <210> SEQ ID NO 702  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 702  
  
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 ggctcccgta t 71  
  
 <210> SEQ ID NO 703  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 703  
  
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 gtgtgacgga t 71

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<210> SEQ ID NO 704  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 704

atccgtcaca cctgctctgg aagcttcata ttttgaggaa tcctcttgaa ttatgggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 705  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 705

atacgggagc caacaccagt ccggttatgac atgtccggac ccgtacgcgt gtcaaagagc 60  
 aggtgtgacg gat 73

<210> SEQ ID NO 706  
 <211> LENGTH: 73  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 706

atccgtcaca cctgctcttt gacacgcgta cgggtccgga catgtcataa cggactgggtg 60  
 ttggctcccg tat 73

<210> SEQ ID NO 707  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 707

atacgggagc caacaccata tcttatcata atgtgatgct aagaaggatc cttagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 708  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 708

atccgtcaca cctgctctaa aggatccttc ttagcatcac attatgataa gatatgggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 709  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 709

atacgggagc caacaccaga ttgatgtaag tagccctcaa atgatttaa gtttagagca	60
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ggtgtgacgg at	72
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<210> SEQ ID NO 710

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 710

atccgtcaca cctgctctaa actttaaadc atttgagggc tacttacatc aatctggtgt	60
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tggctcccgt at	72
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<210> SEQ ID NO 711

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 711

atacgggagc caacaccaca ctaatttadc gcatgcatcg cccgctgatg cccaagagca	60
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ggtgtgacgg at	72
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<210> SEQ ID NO 712

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 712

atccgtcaca cctgctcttg ggcacagcg ggcgatgcat gcgataaatt agtgtggtgt	60
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tggctcccgt at	72
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<210> SEQ ID NO 713

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 713

atacgggagc caacaccaca gaagttatth tgagaacgag acccaaatag gtttagagca	60
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ggtgtgacgg at	72
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<210> SEQ ID NO 714

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 714

atccgtcaca cctgctctta acctatthgg gtcgcttct caaataact tctgtggtgt	60
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tggctcccgt at	72
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<210> SEQ ID NO 715

<211> LENGTH: 72

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<212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 715  
  
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 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 716  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 716  
  
 atccgtcaca cctgctctaa taggcttgtc aataagagtg gtgttctaca ttaatggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 717  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 717  
  
 atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 718  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 718  
  
 atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 719  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 719  
  
 atacgggagc caacaccaca gttttagtg taacaatgct agataataat gaaaagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 720  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 720  
  
 atccgtcaca cctgctcttt tcattattat ctagcattgt tacactacaa actgtggtgt 60

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 tggctcccgt at 72

<210> SEQ ID NO 721  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 721

atacgggagc caacaccaag caaatcacca gaaatctttt aacaatctat tgacagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 722  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 722

atccgtcaca cctgctctgt caatagattg ttaaaagatt tctggtgatt tgcttggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 723  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 723

atacgggagc caacaccaca caggaactag aagaaagtat cttttttcga tttaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 724  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 724

atccgtcaca cctgctctta aatcgaaaaa agatactttc ttctagttcc tgtgtggtgt 60

tggctcccgt at 72

<210> SEQ ID NO 725  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 725

atacgggagc caacaccaca tctagcacga gaccctatcc cagagcaggt gtgacggat 59

<210> SEQ ID NO 726  
 <211> LENGTH: 59  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

&lt;400&gt; SEQUENCE: 726

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atccgtcaca cctgctctgg gatagggctct cgtgctagat gtgggtgttg ctcccgtat 59

<210> SEQ ID NO 727  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 727

atacgggagc cagcaccatt ccggttatgac gtgtccggac ccggttcgagc gtcaagagca 60

ggtgtgacgg at 72

<210> SEQ ID NO 728  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 728

atccgtcaca cctgctcttg acgcgcaac ggttccggac acgtcataac ggaatggtgc 60

tggctcccgt aa 72

<210> SEQ ID NO 729  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 729

atacgggagc caacaccatc acggcaatgt cccgataatg tcttgcttca gcgagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 730  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 730

atccgtcaca cctgctctcg ctgaagcaag acattatcgg gacattgccg tgatggtgtt 60

ggctcccgt a 71

<210> SEQ ID NO 731  
 <211> LENGTH: 55  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 731

atacgggagc caacaccagt ccggttatgac attgtcaaga gcaggtgtga cggat 55

<210> SEQ ID NO 732  
 <211> LENGTH: 55  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 732

atccgtcaca cctgctcttg acaatgtcat aacggactgg tgttggtcc cgtat 55

<210> SEQ ID NO 733

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 733

atacgggagc caacaccaca tactcagacg attaccagc gcatgcttgt aacagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 734

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 734

atccgtcaca cctgctctgt tacaagcatg cgctgggtaa tcgtctgagt atgtggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 735

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 735

atacgggagc caacaccact ctctagccca cggcgggggtt ttctcgcaag tccagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 736

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 736

atccgtcaca cctgctctgg acttgcgaga aaaccccgcc gtgggctaga gagtgggtgtt 60

ggctcccgta t 71

<210> SEQ ID NO 737

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 737

atacgggagc caacaccaat tgccgcctaa ggctaccac attaccatg tgtagagcag 60

gtgtgacgga t 71

<210> SEQ ID NO 738

<211> LENGTH: 71

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence



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<220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 738  
  
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 ggctcccgta t 71  
  
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 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 739  
  
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 gtgtgacgga t 71  
  
 <210> SEQ ID NO 740  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 740  
  
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 ggctcccgta t 71  
  
 <210> SEQ ID NO 741  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 741  
  
 atacgggagc caacaccagt acctgatacc ggggtacata aacaccaaca tctagagcag 60  
 gtgtgacgga t 71  
  
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 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 742  
  
 atccgtcaca cctgctctag atgttggtgt ttatgtaccc cggtatcagg tactggtgtt 60  
 ggctcccgta t 71  
  
 <210> SEQ ID NO 743  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 743  
  
 atacgggagc caacaccaga taccgtgaat atactaattt cgcaatagtt aatagagcag 60  
 gtgtgacgga t 71

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<210> SEQ ID NO 744  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 744

atccgtcaca cctgctctat taactattgc gaaattagta tattcacggt atctgggtgtt 60  
 ggctcccgta t 71

<210> SEQ ID NO 745  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 745

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 746  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 746

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 747  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 747

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacgcgt gtcaagagca 60  
 ggtgtgacgg at 72

<210> SEQ ID NO 748  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 748

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcataac ggactggtgt 60  
 tggctcccgt at 72

<210> SEQ ID NO 749  
 <211> LENGTH: 71  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 749

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atacgggagc caacaccagt ccgtttgaca tgtccggacc cgtacgcgtg tcaagagcag 60  
gtgtgacgga t 71

<210> SEQ ID NO 750  
<211> LENGTH: 71  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized  
  
<400> SEQUENCE: 750

atccgtcaca cctgctcttg acacgcgtac ggtccggac atgtcaaacg gactgggtgtt 60  
ggctcccgta t 71

<210> SEQ ID NO 751  
<211> LENGTH: 71  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized  
  
<400> SEQUENCE: 751

atacgggagc caacaccatc acggcaatgt cccgataatg tcttgcttca gcgagagcag 60  
gtgtgacgga t 71

<210> SEQ ID NO 752  
<211> LENGTH: 71  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized  
  
<400> SEQUENCE: 752

atccgtcaca cctgctctcg ctgaagcaag acattatcgg gacattgccg tgatgggtgtt 60  
ggctcccgta t 71

<210> SEQ ID NO 753  
<211> LENGTH: 65  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized  
  
<400> SEQUENCE: 753

atacgggagc caacaccagt ccgttatgac atgtccggac ccgtacaaga gcaggtgtga 60  
cggat 65

<210> SEQ ID NO 754  
<211> LENGTH: 65  
<212> TYPE: DNA  
<213> ORGANISM: Artificial Sequence  
<220> FEATURE:  
<223> OTHER INFORMATION: chemically synthesized  
  
<400> SEQUENCE: 754

atccgtcaca cctgctcttg tacgggtccg gacatgtcat aacggactgg tggtggctcc 60  
cgtat 65

<210> SEQ ID NO 755  
<211> LENGTH: 72  
<212> TYPE: DNA

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<213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 755  
  
 atacgggagc caacaccaag tocaagccaa acaagagcat aacaccaa atctggagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 756  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 756  
  
 atccgtcaca cctgctctcc agatttgggtg ttatgctctt gtttggttg gacttgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 757  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 757  
  
 atacgggagc caacaccact cggcaccgcc ctccgtatc ggcgagtaac gtacagagca 60  
 ggtgtgacgg at 72  
  
 <210> SEQ ID NO 758  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 758  
  
 atccgtcaca cctgctctgt acgttactcg ccgatacga agggcgggtgc cgagtgggtg 60  
 tggctcccgt at 72  
  
 <210> SEQ ID NO 759  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
 <400> SEQUENCE: 759  
  
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 ggtgtgacgg at 72  
  
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 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized  
  
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 tggctcccgt at 72

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<210> SEQ ID NO 761  
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 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 761

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 ggtgtgacgg at 72

<210> SEQ ID NO 762  
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<400> SEQUENCE: 762

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<210> SEQ ID NO 763  
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<210> SEQ ID NO 764  
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 <213> ORGANISM: Artificial Sequence  
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<210> SEQ ID NO 765  
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<400> SEQUENCE: 765

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 ggtgtgacgg at 72

<210> SEQ ID NO 766  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
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 <223> OTHER INFORMATION: chemically synthesized

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<400> SEQUENCE: 766

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tggtccccgt at 72

<210> SEQ ID NO 767

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<213> ORGANISM: Artificial Sequence

<220> FEATURE:

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<400> SEQUENCE: 767

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ggtgtgacgg at 72

<210> SEQ ID NO 768

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<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 768

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tggtccccgt at 72

<210> SEQ ID NO 769

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<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 769

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ggtgtgacgg at 72

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<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 770

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tggtccccgt at 72

<210> SEQ ID NO 771

<211> LENGTH: 72

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 771

atacgggagc caacaccaca cacagagcgc catggactca gtcagatgtg atgtagagca 60

ggtgtgacgg at 72

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<210> SEQ ID NO 772  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 772

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 tggctcccgt at 72

<210> SEQ ID NO 773  
 <211> LENGTH: 72  
 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 773

atacgggagc caacaccatt gacttggccg tctctgacct ctagcaccct tcgagagca 60  
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<210> SEQ ID NO 774  
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 <212> TYPE: DNA  
 <213> ORGANISM: Artificial Sequence  
 <220> FEATURE:  
 <223> OTHER INFORMATION: chemically synthesized

<400> SEQUENCE: 774

atccgtcaca cctgctctgc gaggggtgct aggggtcaga gacggccaag tcaatggtgt 60  
 tggctcccgt at 72

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I claim:

1. A DNA ligand sequence consisting of SEQ ID NO: 307.
2. A DNA ligand sequence consisting of SEQ ID NO.: 516.

3. A DNA ligand sequence consisting of SEQ ID No.: 577.

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